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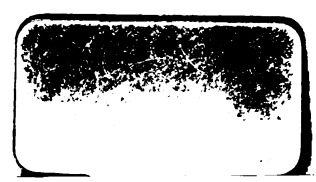

TABLES

FOR FACILITATING

ARITHMETICAL CALCULATIONS,

INTENDED

FOR CALCULATING THE PROPORTIONATE CHARGES
ON THE PARISHES

IN POOR LAW UNIONS,

AND WHICH ARE ALSO

USEFUL FOR VARIOUS OTHER PURPOSES.

DEDICATED BY PERMISSION TO

THE

RIGHT HONOURABLE LORD CLINTON,

CHAIRMAN OF THE BOARD OF GUARDIANS OF THE
TORRINGTON UNION.

BY THOMAS FOWLER,

TREASURER TO THE TORRINGTON UNION.

LONDON:

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To the

Right Honourable

LORD CLINTON.

My Lord,

In permitting me to dedicate to your Lordship the present Tables, you have conferred upon me an Honor for which I feel truly grateful.

I have the Honor to be,

My Lord,

Your Lordship's greatly obliged,

and faithful

humble Servant,

Thos. Fowler.

INTRODUCTION.

THE following TABLES are Published chiefly for the purpose of facilitating the very troublesome Calculations, which occur every Quarter in making up the Accounts of POOR LAW UNIONS. Having myself been employed in the TORRINGTON UNION, to make up the Accounts, at the commencement, I found those Calculations the most troublesome part of the business, and had recourse to the common Logarithms, which certainly abridged the labour, yet even with this valuable aid I was not satisfied, and was constantly searching after some other method more simple, and of easier application;—happily, I hit on the Idea, that any Number might be produced, by a combination of the Powers of the Numbers 2 or 3, and consequently, that the same Indices of the Powers that produced any two or more Numbers, would also represent any other two or more quantities bearing the Ratios of these Numbers, one to another respectively;—I now saw that my object was attained, and that I had only to form a Table of consecutive Numbers, with the corresponding Indices of the Powers of 2 or 3 that would produce them, this was quickly done, by taking the Binary and Ternary Scales of Notation, as the foundation of my proceedings, and I was much delighted at observing the beautiful order in which the Indices introduced themselves into the Tables, and which made their construction a matter of great facility.

Since the Tables have been constructed, the Calculations for the Torrington Union have been made by one or other of them, and the Calculator finding his Work so easy, and so materially abridged, soon caused the Tables to be noticed by the Board of

Guardians, of which the NOBLEMAN, who has so kindly permitted his Name to appear on the Title Page, is Chairman;—His LORDSHIP, and the very efficient and respectable Auditor of the Union Accounts, C. W. JOHNSON, ESQ. were so much pleased with this abridgement of the Calculator's Labours, that they immediately desired me to publish them.

I believe the Plan is entirely new, although the properties of the Powers of the Numbers 2 and 3, of which I have now availed myself, have always been known to Mathematicians, and doubtless, the want of some particular object for their use, such as that which is now furnished by the really beautiful mode of keeping the Accounts of Poor Law Unions, is the reason that an application so obvious and simple, has not hitherto found its way into the various Treatises on Arithmetic.

The necessary Forms of application of the Tables to some useful purposes, will be found in the proper place, and I venture to hope that an intelligent Public will favourably receive this little Work; it is published in the hope of being useful to a valuable Class of Men, by one who is well acquainted with long and laborious Calculations.

In the course of my observations on the Binary and Ternary Scales, I have fallen on a species of Binary and Ternary Arithmetic, which appears to possess some curious Properties, but, as writing on this subject is incompatible with my present purpose, I have only given a short Example of Multiplication, in what may be termed, *Ternary Arithmetic*, the process is extremely easy, and may be extended to very large Numbers.

Should the Sale of the present Edition be favourable, another will soon follow, in which the Ternary Table will appear under another Form, and extend from Unity to Numbers almost indefinitely great, and also contain some other curious and I hope, useful matter.

THOMAS FOWLER.

Great Torrington, Devon,
November 15th. 1838.

DESCRIPTION AND USE

OF THE

BINARY AND TERNARY TABLES.

EXPLANATION OF THE SIGNS.

AS some of the common Algebraical Signs must necessarily be introduced in the description and use of the Tables, it is expedient to premise a short explanation of them.

\+ *plus,* or *more,* indicates that the quantity which follows it is to be added to the quantity that precedes it.

— *minus,* or *less,* signifies that the quantity that follows it is to be subtracted from the quantity that precedes it.

× *into,* signifies that two quantities between which it is placed are to be multiplied one by the other.

÷ *by,* signifies that the quantity which precedes it is to be divided by the quantity that follows it.

= *equal to,* signifies that any two quantities between which it is placed are equal one to the other.

: :: : *is to, so is, to,* signifies that four quantities between which they are placed are proportional one to the other.

The *power* of any number or quantity, signifies that the number or quantity is to be multiplied by itself once or many times, thus, 2×2, $2 \times 2 \times 2$, $2 \times 2 \times 2 \times 2$, $2 \times 2 \times 2 \times 2 \times 2$, &c. are called the 2nd. 3rd. 4th. and 5th. *Powers* of 2, and are thus expressed, 2^2, 2^3, 2^4, 2^5, &c. in which the little numbers above the quantity multiplied are called *Indices*,—the first *Power* of any quantity is always the quantity itself.*

( ) *parenthesis*, signifies that any combination of quantities within it are to be taken collectively as one quantity, and be subject as one quantity to the Sign that is placed before it, and if no Sign be placed before a Parenthesis or other quantity, the Sign + is always understood to be there.

The Sign + also signifies a *positive* or *existing quantity*, and the Sign − a *Negation*, or the want of the quantity that follows it, which in Mathematical language is called a *negative quantity*.

OF THE BINARY TABLE.

This Table extends from Page 1, to Page 16, in double Columns of consecutive Numbers from No. 1, to No. 1023, with the corresponding Indices of the Powers of 2 that produce them. Pages 17 and 18 are a continuation of the same Table, in which the Numbers proceed by large Intervals; I have called these Numbers, *Leading Numbers*, because they lead to the Indices of the Powers that produce any Number from No. 1, to No. 130048, the extent of the Table. The Leading Numbers themselves are represented by the

* The Powers of the Numbers 2 and 3 in the following Pages, are always understood to be represented by their Indices, which are necessarily Positive, and if the Negative Sign be sometimes placed before an Index, or Indices within a Parenthesis, it means only that the *powers* or *quantities* which they represent, are Negative; an Index itself, when made Negative, has quite a different meaning, the explanation of which is not required here.

Indices as they stand in connexion with them, and when their use is required, the Number used must always be taken the nearest below the given Number, and be subtracted from it.

The Powers or Numbers which the Indices up to 16 of the Number 2 represent, will be found in the first part of the Table, Page 56.*

EXAMPLES.

Let it be required to find the Indices that represent the Number 847, by the Binary Table?

In Page 14, the Indices in connexion with the Number 847, are 9,8,6,3,2,1,0, The Answer.

Proof by Table, Page 56,

Index,	9	=	512
	8	=	256
	6	=	64
	3	=	8
	2	=	4
	1	=	2
	0	=	1
The given Number,			847

Let it be required to find the Indices that represent the Number 116177, by the Binary Table?

116177, The given Number.
115712, The nearest Leading Number below it, the ——— Indices of which are 16,15,14,10.
465, The Remainder, the Indices of which are ——— 8,7,6,4,0,

therefore the Indices required are 16,15,14,10,8,7,6,4,0, the Answer,—which may easily be proved by Table, Page 56. And in this way any Number from Unity to 130048, may be represented by Indices of the Powers of 2, in the present Table.

* The Terms, Binary and Ternary Scales, in Page 56, are not strictly correct, as the superior Units of both Scales are there expressed by aid of the Denary Scale of notation,—each Scale has a separate manner of forming its superior Units independent of every other, but only the Denary or Decimal Scale is in common use.

OF THE TERNARY TABLE.

The Ternary Table extends from Page 19, to Page 55, and contains one Column of consecutive Numbers from 0, or Zero, to −10 upwards, and from 0, or Zero, to 1093 downwards, with the corresponding Indices of the Powers of 3 in the 2nd. and 3rd. Columns that represent them, the first of which is called the Positive, and the second the Negative Columns of Indices, and are marked at the heads with the Signs + and − accordingly.

The fourth Column, contains a Series of Numbers by means of which in conjunction with the other three Columns, the Indices that represent any Number up to No. 797161 may be found; in this fourth Column, the middle Number in each parcel of three Numbers between the lines, and marked ⊕ is called a Leading Number, for the same reason as that given for Leading Numbers in the description of the Binary Table. The Indices that represent a Leading Number, are here found by adding 6, to the Indices in the same line with it, that represent the corresponding Number in the first Column; thus the Indices that represent the Leading Number 791694 in Page 55 are (12,11,10,9,8,)−(7,) and, that represent the Leading Number 452709, Page 40, are (12,)−(10,9,) &c. &c.

The Numbers on each side of a Leading Number in every partition of three lines, are called *Limiting Numbers*, because they limit the extent to which their respective Leading Numbers apply in the Table, the smaller of which is called the inferior, and the larger the superior limit of the Leading Number between them, and the Signs − and + indicate, that if the given Number lie between the Leading Number and its inferior limit, the difference between them must be regarded as Minus; but if it lie between the Leading Number and its superior limit, the difference between them must be taken as Plus, and in both cases the Indices that represent these differences, must be taken out of the Table accordingly.

The Number in each Parenthesis in the Column of Leading Numbers, is placed there, only to shew that the Leading Number in connexion with it is simply a Power of 3, and in Page 55, in the two last divisions, are introduced two Leading Numbers with their limiting Numbers, by means of which, the Table is extended to nearly Four Millions; the two Numbers in the first Column in the same Lines with these two large Leading Numbers, are a repetition of the two Leading Numbers at the commencement, and are introduced here with their proper Indices, for the purpose of shewing the manner of finding the Indices of a New Series of large Leading Numbers, commencing with the Leading Number 1594323, &c. &c. &c.

It appears in Page 19, if the Series of Positive Numbers +4, +3, +2, be supposed to continue diminishing by Unity as they proceed upwards, that the next step will be +1, and the following, 0, or Zero, and that a further continuation will be of the Form −1, −2, −3, −4, &c. &c. that is, the Series will now proceed by Negative Numbers, continually increasing, and the corresponding Indices still preserving their regular order of Introduction into the Table, also indicate the change of Signs, as the Series proceeds through Zero upwards; and it is necessary to remark in this place, that the same Indices which represent the Positive Numbers in proceeding downwards, also represent the same Numbers as they become Negative, in proceeding upwards from Zero, and that their places only in their respective Columns of Plus and Minus are changed, which shews, that when the Indices for a Negative Number are required, it is only necessary to reverse the Signs of the Indices that would represent the same Number, supposing it were Positive.

In the second part of Page 56, will be found the Numbers or Powers of 3, that are indicated by the Indices throughout the Ternary Table, and also of these Indices increased by Sixes up to the 14th. Power.

EXAMPLES.

Let it be required to find the Indices that represent the Number 842, by the Ternary Table?

In Page 47, the Indices required are (6,4,3,2,) − (1,0,)

		+			−
Proof.——Index,	6	= 729	Index,	1	= 3
	4	= 81		0	= 1
	3	= 27			
	2	= 9			−4
		846			
		−4			
The given Number,		842			

Let it be required to find the Indices that represent the Number 317777?

In the Column of Leading Numbers, it appears that this Number lies between the Leading Number 317115 and its superior limit, consequently the difference takes the Positive Sign.

317777, The given Number.
317115, The nearest Leading Number, its Indices are (12,9,7,) − (11,10,)
+662, The difference, its Indices are (6,3,) − (4,2,1,0,)

therefore the Indices are (12,9,7,6,3,) − (11,10,4,2,1,0,) the Answer.

		+			−
Proof.——Index,	12	=531441	Index,	11	=177147
	9	= 19683		10	= 59049
	7	= 2187		4	= 81
	6	= 729		2	= 9
	3	= 27		1	= 3
		554067		0	= 1
		−236290			−236290
The given Number,		317777			

Let it be required to find the Indices that represent the Number 478209?

This Number lies between the Leading Number 478953 and its inferior limit, therefore the difference takes the Negative Sign.

478209, The given Number.
478953, The Leading Number, its Indices are (12,8,) —(10,)
—744, The difference, which being Minus, or Negative, the Indices that represent this Number, supposing it Positive, must be reversed, and stand thus, (2,1,)—(6,3,) Page 44,

therefore the Indices required are (12,8,2,1,)—(10,6,3,) the Answer, which can easily be proved.

Let it be required to find the Indices that represent the Number 2029701?

2029701, The given Number.
1594323, The nearest Leading Number, Page 55, its Index is (13,)
+435378, The difference, which is Positive.
435213, The nearest Leading Number, its Indices are (12,10,9,7,)—(11,) Page 39.
+165, The difference, which is Positive, its Indices are (5,1,)—(4,)

therefore the Indices that represent the Number 2029701, are (13,12,10,9,7,5,1,)—(11,4,) the Answer.

Proof.——

Index,			Index,		
13	=	1594323	11	=	177147
12	=	531441	4	=	81
10	=	59049			
9	=	19683			−177228
7	=	2187			
5	=	243			
1	=	3			
		2206929			
		−177228			
The given Number,		2029701			

Let it be required to find the Indices that represent Three Millions?

3000000, The given Number.
3188646, The nearest Leading Number, Page 55, its
———— Indices are (14,)−(13,)
−188646, The difference, which is Negative, because the given Number lies between the Leading Number and its inferior limit.
−188082, The nearest Leading Number, which is consequently Negative, its Indices there-
———— fore are (8,7,)−(11,9,) Page 27.
−564, The difference, which is also Negative,
———— because the first difference is Negative and lies between *its* nearest Leading Number and its *inferior* limit,* its Indices therefore are (5,1,)−(6,4,) Page 38,

the required Indices that represent 3000000, are therefore (14,8,7,5,1,)−(13,11,9,6,4,) the Answer.

Proof.——Index,			Index,	
14	=	4782969	13	= 1594323
8	=	6561	11	= 177147
7	=	2187	9	= 19683
5	=	243	6	= 729
1	=	3	4	= 81
		4791963		−1791963
		−1791963		
The given Number,		3000000		

Let it be required to find the Indices that represent the Number 3000786?

3000786, The given Number.
3188646, The nearest Leading Number, its Indices
———— are (14,)−(13,) Page 55.
−187860, The difference, which is Negative.

* Two or three Negative Leading Numbers appear in the upper part of Page 19, where it may be seen that the inferior limit of a Negative Leading Number is a larger Number than the Leading Number itself, and its superior limit a smaller Number, the reason of which is, that as Negative Numbers increase in magnitude from Zero, they evidently decrease in value.

−187860, The difference, brought up.
−188082, The nearest Leading Number, which being
———— Negative, its Indices are (8,7,)−(11,9,)
+222, The difference, which is Positive, because
———— the last difference lies between the Leading Number and its superior limit, the Indices are (5,2,)−(3,1,)

the Indices required are therefore (14,8,7,5,2,) −(13,11,9,3,1,) the Answer.

Proof.——Index,	14	= 4782969	Index,	13	= 1594323
	8	= 6561		11	= 177147
	7	= 2187		9	= 19683
	5	= 243		3	= 27
	2	= 9		1	= 3
		4791969			−1791183
		−1791183			
The given Number,		3000786			

If the given Number be a Limiting Number, the difference between it and its Leading Number must be proceeded with, as with any other difference.

OBSERVATIONS.

If the Powers of the Number 2 be arranged as an increasing Series, beginning with its first Power, it is expressed by the Form 2^1, 2^2, 2^3, 2^4, 2^5, 2^6, &c. in which the Indices 1, 2, 3, 4, 5, 6, &c. are a Series of Numbers in Arithmetical Progression, the common difference of which is 1, and the Powers themselves being a continued multiplication of 2 by itself (see Page vi.) take the Form, 2, 4, 8, 16, 32, 64, &c. which is a regular Series in Geometrical Progression, of which the Number 2, is the *Radix*, or common multiplier; The Powers and their corresponding Indices may therefore stand thus, { Indices 1, 2, 3, 4, 5, 6, &c. / Powers 2, 4, 8, 16, 32, 64, &c. and conversely, as the Indices decrease from step to

step by 1 or Unity, so the corresponding Powers decrease, by continually dividing by 2, therefore the first step that precedes the above Series, taken backwards in the same order, is $\left\{\begin{matrix}\text{Index } 0,\\ \text{Power } 1,\end{matrix}\right.$ which shews, that the 0th. Power of 2 is 1, or Unity, consequently an ascending Series of the Powers of 2, commencing with Unity, with their corresponding Indices, are of this Form, $\left\{\begin{matrix}0,\ 1,\ 2,\ 3,\ 4,\ 5,\ 6,\ \&c.\ \&c.\\ 1,\ 2,\ 4,\ 8,\ 16,\ 32,\ 64,\ \&c.\ \&c.\end{matrix}\right.$ and in the same way it may be proved, that an ascending Series of the Powers of 3, commencing with Unity, and their corresponding Indices, are of the Form, $\left\{\begin{matrix}0,\ 1,\ 2,\ 3,\ \&c.\\ 1,\ 3,\ 9,\ 27,\ \&c.\end{matrix}\right.$ therefore the Powers of the Numbers 2 and 3, in the present Tables, are properly represented by their Indices.

APPLICATION OF THE TABLES, &c.

As the Index 0, represents Unity at the commencement of a Series of Powers of the Numbers 2 or 3, so it may also represent *any other Number or quantity*, at the commencement of a Series ascending in the same order, and every Term in the new Series will bear the same relative proportion to its corresponding term in the original Series of Powers, as the first new term represented by Index 0, bears to Unity: Thus suppose Index 0, to represent $1\frac{1}{4}d.$ (One Penny Farthing,) as the first term of an ascending Series, having 2 for its *Radix* or common multiplier. The new Series, with its corresponding Indices and Powers of 2, will stand thus,

New Series,	$1\frac{1}{4}$ *d.*	$2\frac{1}{2}$ *d.*	5 *d.*	10 *d.*	1 *s.*	8 *d.*	3 *s.*	4 *d.*	6 *s.*	8 *d.*	&c.
Indices,	0	1	2	3	4	5	6	&c.			
Powers of 2,	1	2	4	8	16	32	64	&c.			

in which every Power of 2 has its corresponding relative value above it in the new Series, for,——

As 1 : $1\frac{1}{4}d.$ :: 2 : $2\frac{1}{2}d.$ :: 4 : $5d.$ :: 8 : $10d.$ and :: 64 : $6s.$ $8d.$ &c. &c. and this is the common property of a Series of the Powers of any Number in

connexion with a corresponding Series that arises from a given value assigned to any one of its terms; and as any given Number can be produced by a combination of the Powers of the Numbers 2 or 3, by addition, or by addition and subtraction, as indicated by the respective Tables, so, by a similar process with the corresponding terms in the new Series, the value of the given Number can easily be found; It is also evident, that if any one term of the new Series be known, all the other terms of this Series may be found by multiplying and dividing by the Radix of the Powers in operation.

The method of apportionating the Charges on Parishes forming a Poor Law Union, in proportion to their respective Assessments, may now be proceeded with; and for this purpose, let the Establishment Charges of the TORRINGTON UNION, be taken as an example, and the calculations be made by the Ternary Table.

THIS UNION contains 23 Parishes, the Average Annual Assessment of the whole is £7416, and the Establishment Charges for the Quarter ending Christmas 1837, £177 : 2 : $1\frac{1}{2}$.

It is unnecessary to shew the operation for every Parish individually, therefore by taking the Assessments of a few Parishes and the remaining part of the General Assessment as if it were the Assessment of a single Parish, all that is here needful for an Example may be shewn.——The Assessment of the Parish of GREAT TORRINGTON is £1207, of LITTLE TORRINGTON £265, ALVERDISCOTT £120, HUISH £49, WINKLEIGH £934, and of the Remaining 18 Parishes, £4841, forming altogether £7416, the Average Assessment of the whole.

In the first place, it is necessary to form a new Series in connexion with the Series of the Powers of 3, and the Ratio of their corresponding terms must be, As £7416 : £177 : 2 : $1\frac{1}{2}$.——Let the 6th. Power of 3=729, be the third term of this proportion, then the corresponding term in the new Series, is found by the

following operation, which I have worked in full as an example for every future case.

£.		£.	s.	d.		£.
7416	:	177	2	$1\frac{1}{2}$	::	729 : ?

20
3542
12
42505
4
170022
729 = 3^6
1530198
340044
1190154
Farthings.
7416) 123946038 (16713,33 =
7416
49786
44496
52900
51912
9883
7416
24678
22248
24300
22248
20520
22248
−1728

TABLE.

OR

NEW SERIES,

OF

CORRESPONDING VALUE

with the like Terms

OF THE

TERNARY SCALE.

THE RATIO,

£7416 : £177 : 2 : $1\frac{1}{2}$.

Indices	£.	s.	d.	qrs.
8, =	156	13	8	$\frac{3}{4}$,97
7, =	52	4	6	$\frac{3}{4}$,99
6, =	17	8	2	$\frac{1}{4}$,33
5, =	5	16	0	$\frac{3}{4}$,11
4, =	1	18	8	$\frac{1}{4}$,04
3, =	0	12	10	$\frac{3}{4}$,01
2, =	0	4	3	$\frac{1}{2}$,34
1, =	0	1	5	0,78
0, =	0	0	5	$\frac{1}{2}$,92

In the above Table, the Term represented by Index 6, is found by the present operation; every other Term downwards is found by successively dividing by 3, down to Index 0, and by multiplying upwards by 3, as far as needful; beginning in both cases at the Term £17 : 8 : $2\frac{1}{4}$,33, represented by Index 6.

By the preceding operation, the term in the new Series, corresponding to the 6th. Power of 3=729 in the Ternary Scale, is found in Farthings, because the middle term £177 : 2 : $1\frac{1}{2}$ is reduced to Farthings, and as in most cases a Fraction of a Farthing will remain, it is necessary for the sake of accuracy to continue the division into two or three places of Decimals, so that the nearest Decimal of a Farthing to at least two places of Figures in each of the terms of the Tables, may be obtained, and because, dividing downwards does not much affect the two first places of Figures in the Decimals, therefore it is always better to take a Power of 2 or 3, nearly as high as may be required in the Table, for the third term of the Proportion;—a little practice will shew this better than can be described here, and it will also be necessary, occasionally, to change the second Figure in the Decimal for the next in value above it; by this means, the Calculator will generally find the Sum he produces, correct, to the nearest Farthing.—In the few Tables about to be given, these Rules will constantly be observed.

The remaining part of the operation for the respective Establishment Charges, is performed by addition and subtraction only; and in the first place, to prove the correctness of the preceding operations, let it be required to find the corresponding Amount for the Total Assessment, £7416? by the little Table in Page xvi,—and immediately after, the operations for the respective Parishes, may be proceeded with.

7416 THE TOTAL ASSESSMENT.

	Ind.	£.	s.	d. qrs.
6561	=8=	156	13	$8\frac{3}{4}$,97
——	6=	17	8	$2\frac{1}{4}$,33
+855	5=	5	16	$0\frac{3}{4}$,11
		179	18	0 ,41
		−2	15	$10\frac{1}{2}$,39
		177	2	$1\frac{1}{2}$,02

Proof of the Table.

Index,		£.	s.	d. qrs.
	4=	1	18	$8\frac{1}{4}$,04
	3=	0	12	$10\frac{3}{4}$,01
	2=	0	4	$3\frac{1}{2}$,34
		−2	15	$10\frac{1}{2}$,39

1207 GREAT TORRINGTON.

	Ind.	£.	s.	d. qrs.		£.	s.	d. qrs.
2187	= 7 =	52	4	$6\frac{3}{4}$,99	Index, 6 =	17	8	$2\frac{1}{4}$,33
	0 =	0	0	$5\frac{1}{2}$,92	5 =	5	16	$0\frac{3}{4}$,11
−980					2 =	0	4	$3\frac{1}{2}$,34
		52	5	$0\frac{1}{2}$,91				
		−23	8	$6\frac{1}{2}$,78		−23	8	$6\frac{1}{2}$,78
		28	16	6 ,13	for Great Torrington.			

265 LITTLE TORRINGTON.

Index,	5 =	5	16	$0\frac{3}{4}$,11	Index, 2 =	−0	4	$3\frac{1}{2}$,34
	3 =	0	12	$10\frac{3}{4}$,01				
	1 =	0	1	5 ,78				
	0 =	0	0	$5\frac{1}{2}$,92				
		6	10	$10\frac{1}{4}$,82				
		−0	4	$3\frac{1}{2}$,34				
		6	6	$6\frac{3}{4}$,48	for Little Torrington.			

120 ALVERDISCOTT.

Index,	4 =	1	18	$8\frac{1}{4}$,04	
	3 =	0	12	$10\frac{3}{4}$,01	
	2 =	0	4	$3\frac{1}{2}$,34	
	1 =	0	1	5 ,78	
		2	17	$3\frac{3}{4}$,17	for Alverdiscott.

49 HUISH.

Index,	4 =	1	18	$8\frac{1}{4}$,04	Index, 3 =	0	12	$10\frac{3}{4}$,01
	1 =	0	1	5 ,78	2 =	0	4	$3\frac{1}{2}$,34
	0 =	0	0	$5\frac{1}{2}$,92				
		2	0	7 ,74		−0	17	$2\frac{1}{4}$,35
		−0	17	$2\frac{1}{4}$,35				
		1	3	$4\frac{3}{4}$,39	for Huish.			

934 **WINKLEIGH.**

		£.	s.	d. qrs.
Index,	6=	17	8	2¼,33
	5=	5	16	0¾,11
	0=	0	0	5½,92
		23	4	8¾,36
		−0	18	7½,13
		22	6	1¼,23

		£.	s.	d. qrs.
Index,	3=	0	12	10¾,01
	2=	0	4	3½,34
	1=	0	1	5 ,78
		−0	18	7½,13

for Winkleigh.

4841 **REMAINING 18 PARISHES.**

4374	=8=	156	13	8¾,97	Index,	7=	52	4	6¾,99
	6=	17	8	2¼,33		5=	5	16	0¾,11
+467	2=	0	4	3½,34		3=	0	12	10¾,01
						0=	0	0	5½,92
		174	6	2¾,64					
		−58	14	0¼,03			−58	14	0¼,03
		115	12	2½,61					

for Remaining 18 Parishes.

£.		£.	s.	d. qrs.
1207	Great Torrington, - -	28	16	6 ,13
265	Little Torrington, -	6	6	6¾,48
120	Alverdiscott, - - -	2	17	3¾,17
49	Huish, - - -	1	3	4¾,39
934	Winkleigh, - -	22	6	1¼,23
4841	Remaining 18 Parishes,	115	12	2½,61
£7416	Total,	£177	2	1½,01

The same Example for Establishment Charges may be taken, to shew the use of the Binary Table, and if the Third Term in the Proportion be the 10th. Power of 2, = 1024, it will stand thus,—

As, £7416 : £177 : 2 : 1½ :: £1014 : ?

The solution, gives 23476 Farthings, and nearly the 61 Hundredth parts of a Farthing over, which reduced into Pounds &c. is = £24 : 9 : 1 ,61, and is represented by Index 10, in the following Proportionate Table.

PROPORTIONATE TABLE.

RATIO, £7416 : £177 : 2 : 1½.

23476,61 Farthings, =

The Terms downwards are here found, by successively dividing by 2, and upwards by multiplying by 2, as far as needful.

Indices.	£.	s.	d. qrs.
12 =	97	16	4½,44
11 =	48	18	2¼,22
10 =	24	9	1 ,61
9 =	12	4	6½,31
8 =	6	2	3¼,15
7 =	3	1	1½,58
6 =	1	10	6¾,29
5 =	0	15	3¼,65
4 =	0	7	7½,82
3 =	0	3	9¾,41
2 =	0	1	10¾,71
1 =	0	0	11¼,85
0 =	0	0	5½,92

7416 *Total Assessment.*

	Ind.	£.	s.	d. qrs.
7168 =	12 =	97	16	4½,44
——	11 =	48	18	2¼,22
248	10 =	24	9	1 ,61
	7 =	3	1	1½,58
	6 =	1	10	6¾,29
	5 =	0	15	3¼,65
	4 =	0	7	7½,82
	3 =	0	3	9¾,41
Proof,		177	2	1½,02

265 *Little Torrington.*

Index,	8 =	6	2	3¼,15
	3 =	0	3	9¾,41
	0 =	0	0	5½,92
		6	6	6¾,48

1207 *Great Torrington.*

	Ind.	£.	s.	d. qrs.
1024 =	10 =	24	9	1 ,61
——	7 =	3	1	1½,58
183	5 =	0	15	3¼,65
	4 =	0	7	7½,82
	2 =	0	1	10¾,71
	1 =	0	0	11¼,85
	0 =	0	0	5½,92
		28	16	6 ,14

120 *Alverdiscott.*

Index,	6 =	1	10	6¾,29
	5 =	0	15	3¼,65
	4 =	0	7	7½,82
	3 =	0	3	9¾,41
		2	17	3¾,17

49 *Huish.*

		£.	s.	d. qrs.
Index,	5 =	0	15	$3\frac{1}{4}$,65
	4 =	0	7	$7\frac{1}{2}$,82
	0 =	0	0	$5\frac{1}{2}$,92
		1	3	$4\frac{3}{4}$,39

934 *Winkleigh.*

		£.	s.	d. qrs.
Index,	9 =	12	4	$6\frac{1}{2}$,31
	8 =	6	2	$3\frac{1}{4}$,15
	7 =	3	1	$1\frac{1}{2}$,58
	5 =	0	15	$3\frac{1}{4}$,65
	2 =	0	1	$10\frac{3}{4}$,71
	1 =	0	0	$11\frac{1}{4}$,85
		22	6	$1\frac{1}{4}$,25

4841 *Rem.* 18 *Parishes.*

		£.	s.	d. qrs.
4096	12 =	97	16	$4\frac{1}{2}$,44
	9 =	12	4	$6\frac{1}{2}$,31
745	7 =	3	1	$1\frac{1}{2}$,58
	6 =	1	10	$6\frac{3}{4}$,29
	5 =	0	15	$3\frac{1}{4}$,65
	3 =	0	3	$9\frac{3}{4}$,41
	0 =	0	0	$5\frac{1}{2}$,92
		115	12	$2\frac{1}{2}$,60

RECAPITULATION.

	£.	s.	d. qrs.		£.	s.	d.
Great Torrington, =	28	16	6 ,14	or	28	16	6
Little Torrington, =	6	6	$6\frac{3}{4}$,48	or	6	6	7
Alverdiscott, - =	2	17	$3\frac{3}{4}$,17	or	2	17	$3\frac{3}{4}$
Huish, - - =	1	3	$4\frac{3}{4}$,39	or	1	3	$4\frac{3}{4}$
Winkleigh, - -	22	6	$1\frac{1}{4}$,25	or	22	6	$1\frac{1}{4}$
Rem. 18 Parishes, -	115	12	$2\frac{1}{2}$,60	or	115	12	$2\frac{3}{4}$
Total,	£177	2	$1\frac{1}{2}$,03	or	£177	2	$1\frac{1}{2}$

The In-maintenance, Clothing, and Building Accounts, &c. &c. are all, easily computed on the same principle.

I may proceed to shew some other uses of the Tables, and first, for an Interest Table;—In Page 56, are Tables for Interest for Days, at the Rate of £5 per Cent, per Annum, the Ratio for the Calculation of each is 100×365 : £5.—And to shew how universally these Tables may be applied, I will now take an extreme case for Interest,—Let it be required to make a Proportionate Table for Interest for Days, at the Rate of £4 11 $3\frac{1}{2}$ per Annum, for every £123?

PROPORTIONATE TABLE.

RATIO, £123 × 365 : 4 11 3¼ (Ternary Scale.)

	Indices.	£.	s.	d. qrs.
466737,66 Farthings, =	14 =	486	3	8¼,66
	13 =	162	1	2¾,22
	12 =	54	0	4½,74
	11 =	18	0	1½,58
The 14th. Power of 3,	10 =	6	0	0½,19
4782969, is taken for the	9 =	2	0	0 ,73
3rd. Term of this Propor-	8 =	0	13	4 ,24
tion, and all the Terms	7 =	0	4	5¼,41
downwards are found by	6 =	0	1	5¾,13
successively dividing by 3,	5 =	0	0	5¾,71
beginning with the Term	4 =	0	0	1¾,90
represented by Index 14.	3 =	0	0	0½,63
	2 =	0	0	0 ,88
	1 =	0	0	0 ,29
EXAMPLES.	0 =	0	0	0 ,10

44895 = 123 × 365. Interest on £123, for One Year?

		£.	s.	d. qrs.
45927	Ind. 10 =	6	0	0½,19
	8 =	0	13	4 ,24
−1032	3 =	0	0	0½,63
	1 =	0	0	0 ,29
		6	13	5¼,35
		−2	2	2 ,35
	Proof,	4	11	3¼,00

	£.	s.	d. qrs.
Ind. 9 =	2	0	0 ,73
6 =	0	1	5¾,13
5 =	0	0	5¾,71
4 =	0	0	1¾,90
2 =	0	0	0 ,88
	−2	2	2 ,35

36500 = 100 × 365. Interest on £100, for One Year?

		£.	s.	d. qrs.
37179	Ind. 10 =	6	0	0½,19
	4 =	0	0	1¾,90
−679		6	0	2½,09
		−2	6	0 ,29
	Rate per Cent,	3	14	2¼,80

	£.	s.	d. qrs.
Ind. 9 =	2	0	0 ,73
7 =	0	4	5¼,41
6 =	0	1	5¾,13
3 =	0	0	0½,63
1 =	0	0	0 ,29
0 =	0	0	0 ,10
	−2	6	0 ,29

Proportionate Tables (Binary and Ternary Scales,) for Selling and Purchasing Stock.

Ratio, 100 : 92 $\frac{5}{8}$ $\frac{1}{16}$ B. S. Ratio, 92 $\frac{5}{8}$ $\frac{1}{16}$: 100, T. S.

Indices.	£.	s.	d. qrs.	Indices.	£.	s.	d. qrs.
16, =	60743	13	7 ,8	14, =	5160317	3	10¾,08
15, =	30371	16	9½,4	13, =	1720105	14	7½,36
14, =	15185	18	4¾,2	12, =	573368	11	6½,12
13, =	7592	19	2¼,6	11, =	191122	17	2 ,71
12, =	3796	9	7 ,8	10, =	63707	12	4½,90
11, =	1898	4	9½,4	9, =	21235	17	5½,30
10, =	949	2	4¾,2	8, =	7078	12	5¾,43
9, =	474	11	2¼,6	7, =	2359	10	9¾,81
8, =	237	5	7 ,8	6, =	786	10	3¼,27
7, =	118	12	9½,4	5, =	262	3	5 ,43
6, =	59	6	4¾,2	4, =	87	7	9½,81
5, =	29	13	2¼,6	3, =	29	2	7 ,93
4, =	14	16	7 ,8	2, =	9	14	2¼,64
3, =	7	8	3½,4	1, =	3	4	8¾,22
2, =	3	14	1¾,2	0, 6, =	1	1	6¾,74
1, =	1	17	0¾,6	−1, 5, =	0	7	2¼,24
0, 8, =	0	18	6¼,8	−2, 4, =	0	2	4¾,08
−1, 7, =	0	9	3 ,9	−3, 3, =	0	0	9½,36
−2, 6, =	0	4	7½,45	−4, 2, =	0	0	3 ,79
−3, 5, =	0	2	3¾,22	−5, 1, =	0	0	1 ,26
−4, 4, =	0	1	1¾,61	−6, 0, =	0	0	0¼,42
−5, 3, =	0	0	6¾,81	−&c. =	0	0	0 ,48
−6, 2, =	0	0	3¼,90	&c.		&c.	&c.
−7, 1, =	0	0	1½,95				
−8, 0, =	0	0	0¾,47				

If the Indices for any Sum of lower denomination than a Pound, be required, reduce the Sum to Pence, which × by 1,07, (=256÷240) for the Binary, and by 3,04, (=729÷240) for the Ternary Scales; the Indices that represent the whole Numbers in these products, are the compliments of the Negative Indices in the above Tables to 8 and 6 respectively; they are also the Representatives of the corresponding Terms in those Proportionate Tables.—These Products may properly be called *Bimals*, and *Tremals*, as they are perfectly analogous to Decimals, in the Denary Scale of Notation.

How much will £1050 12 $8\frac{3}{4}$ Stock, sell for, at $92\frac{5}{8}\frac{1}{16}$?
and how much Stock, will £973 16 2 purchase, at the same Rate?

1050*b*163 = £1050 12 $8\frac{3}{4}$

		£.	s.	d. qrs.
1024, Ind.	10 =	949	2	$4\frac{3}{4}$,2
	4 =	14	16	7 ,8
26,	3 =	7	8	$3\frac{1}{2}$,4
	1 =	1	17	$0\frac{3}{4}$,6
163 =	7 =	0	9	3 ,9
	5 =	0	2	$3\frac{3}{4}$,22
	1 =	0	0	$1\frac{1}{2}$,95
	0 =	0	0	$0\frac{3}{4}$,47
Ans.		973	16	2 ,54

Index, 5 = 0 7 $2\frac{1}{4}$,24
1 = 0 0 1 ,26
0 = 0 0 $0\frac{1}{4}$,42

−0 7 $3\frac{1}{2}$,92

973*t*590 = £973 16 2

		£.	s.	d. qrs.
Ind.	6 =	786	10	$3\frac{1}{4}$,27
	5 =	262	3	5 ,43
	0 =	1	1	$6\frac{3}{4}$,74
590 =	6 =	1	1	$6\frac{3}{4}$,74
	4 =	0	2	$4\frac{3}{4}$,08
	3 =	0	0	$9\frac{1}{2}$,36
		1051	0	$0\frac{1}{2}$,62
		−0	7	$3\frac{1}{2}$,92
Ans.		1050	12	$8\frac{3}{4}$,70

The Binary and Ternary Scales are used for the Examples in this Page, and the Question for one is the reverse of that for the other; the Proportionate Table to the Ternary Scale, in the last Page, will give a correct result for any Sum, from One Farthing to above Five Millions Sterling, with very little trouble.

I may now conclude, with an Example of Multiplication, by the Ternary Scale, which scarcely requires any mental exertion whatever; no Multiplication, nor even Addition, is required, as ordinarily practised.

Multiply	+ ⊙ − − + − +	= 628
By	+ − + ⊙ ⊙ − ⊙	= 564
	− ⊙ + + − + − ⊙	2512
	+ ⊙ − − + − + ⊙ ⊙	3768
	− ⊙ + + − + −	3140
	+ ⊙ − − + − +	
	+ − ⊙ ⊙ ⊙ ⊙ ⊙ ⊙ − − + − ⊙	= 354192

BINARY TABLE.

OR,

A TABLE OF INDICES OF THE POWERS OF THE NUMBER 2,

THAT PRODUCE ALL NUMBERS

FROM 1, TO 130048.

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2
0		32	5,
1	0,	33	5,0,
2	1,	34	5,1,
3	1,0,	35	5,1,0,
4	2,	36	5,2,
5	2,0,	37	5,2,0,
6	2,1,	38	5,2,1,
7	2,1,0,	39	5,2,1,0,
8	3,	40	5,3,
9	3,0,	41	5,3,0,
10	3,1,	42	5,3,1,
11	3,1,0,	43	5,3,1,0,
12	3,2,	44	5,3,2,
13	3,2,0,	45	5,3,2,0,
14	3,2,1,	46	5,3,2,1,
15	3,2,1,0,	47	5,3,2,1,0,
16	4,	48	5,4,
17	4,0,	49	5,4,0,
18	4,1,	50	5,4,1,
19	4,1,0,	51	5,4,1,0,
20	4,2,	52	5,4,2,
21	4,2,0,	53	5,4,2,0,
22	4,2,1,	54	5,4,2,1,
23	4,2,1,0,	55	5,4,2,1,0,
24	4,3,	56	5,4,3,
25	4,3,0,	57	5,4,3,0,
26	4,3,1,	58	5,4,3,1,
27	4,3,1,0,	59	5,4,3,1,0,
28	4,3,2,	60	5,4,3,2,
29	4,3,2,0,	61	5,4,3,2,0,
30	4,3,2,1,	62	5,4,3,2,1,
31	4,3,2,1,0,	63	5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
64	6,	96	6,5,
65	6,0,	97	6,5,0,
66	6,1,	98	6,5,1,
67	6,1,0,	99	6,5,1,0,
68	6,2,	100	6,5,2,
69	6,2,0,	101	6,5,2,0,
70	6,2,1,	102	6,5,2,1,
71	6,2,1,0,	103	6,5,2,1,0,
72	6,3,	104	6,5,3,
73	6,3,0,	105	6,5,3,0,
74	6,3,1,	106	6,5,3,1,
75	6,3,1,0,	107	6,5,3,1,0,
76	6,3,2,	108	6,5,3,2,
77	6,3,2,0,	109	6,5,3,2,0,
78	6,3,2,1,	110	6,5,3,2,1,
79	6,3,2,1,0,	111	6,5,3,2,1,0,
80	6,4,	112	6,5,4,
81	6,4,0,	113	6,5,4,0,
82	6,4,1,	114	6,5,4,1,
83	6,4,1,0,	115	6,5,4,1,0,
84	6,4,2,	116	6,5,4,2,
85	6,4,2,0,	117	6,5,4,2,0,
86	6,4,2,1,	118	6,5,4,2,1,
87	6,4,2,1,0,	119	6,5,4,2,1,0,
88	6,4,3,	120	6,5,4,3,
89	6,4,3,0,	121	6,5,4,3,0,
90	6,4,3,1,	122	6,5,4,3,1,
91	6,4,3,1,0,	123	6,5,4,3,1,0,
92	6,4,3,2,	124	6,5,4,3,2,
93	6,4,3,2,0,	125	6,5,4,3,2,0,
94	6,4,3,2,1,	126	6,5,4,3,2,1,
95	6,4,3,2,1,0,	127	6,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
128	7,	160	7,5,
129	7,0,	161	7,5,0,
130	7,1,	162	7,5,1,
131	7,1,0,	163	7,5,1,0,
132	7,2,	164	7,5,2,
133	7,2,0,	165	7,5,2,0,
134	7,2,1,	166	7,5,2,1,
135	7,2,1,0,	167	7,5,2,1,0,
136	7,3,	168	7,5,3,
137	7,3,0,	169	7,5,3,0,
138	7,3,1,	170	7,5,3,1,
139	7,3,1,0,	171	7,5,3,1,0,
140	7,3,2,	172	7,5,3,2,
141	7,3,2,0,	173	7,5,3,2,0,
142	7,3,2,1,	174	7,5,3,2,1,
143	7,3,2,1,0,	175	7,5,3,2,1,0,
144	7,4,	176	7,5,4,
145	7,4,0,	177	7,5,4,0,
146	7,4,1,	178	7,5,4,1,
147	7,4,1,0,	179	7,5,4,1,0,
148	7,4,2,	180	7,5,4,2,
149	7,4,2,0,	181	7,5,4,2,0,
150	7,4,2,1,	182	7,5,4,2,1,
151	7,4,2,1,0,	183	7,5,4,2,1,0,
152	7,4,3,	184	7,5,4,3,
153	7,4,3,0,	185	7,5,4,3,0,
154	7,4,3,1,	186	7,5,4,3,1,
155	7,4,3,1,0,	187	7,5,4,3,1,0,
156	7,4,3,2,	188	7,5,4,3,2,
157	7,4,3,2,0,	189	7,5,4,3,2,0,
158	7,4,3,2,1,	190	7,5,4,3,2,1,
159	7,4,3,2,1,0,	191	7,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
192	7,6,	224	7,6,5,
193	7,6,0,	225	7,6,5,0,
194	7,6,1,	226	7,6,5,1,
195	7,6,1,0,	227	7,6,5,1,0,
196	7,6,2,	228	7,6,5,2,
197	7,6,2,0,	229	7,6,5,2,0,
198	7,6,2,1,	230	7,6,5,2,1,
199	7,6,2,1,0,	231	7,6,5,2,1,0,
200	7,6,3,	232	7,6,5,3,
201	7,6,3,0,	233	7,6,5,3,0,
202	7,6,3,1,	234	7,6,5,3,1,
203	7,6,3,1,0,	235	7,6,5,3,1,0,
204	7,6,3,2,	236	7,6,5,3,2,
205	7,6,3,2,0,	237	7,6,5,3,2,0,
206	7,6,3,2,1,	238	7,6,5,3,2,1,
207	7,6,3,2,1,0,	239	7,6,5,3,2,1,0,
208	7,6,4,	240	7,6,5,4,
209	7,6,4,0,	241	7,6,5,4,0,
210	7,6,4,1,	242	7,6,5,4,1,
211	7,6,4,1,0,	243	7,6,5,4,1,0,
212	7,6,4,2,	244	7,6,5,4,2,
213	7,6,4,2,0,	245	7,6,5,4,2,0,
214	7,6,4,2,1,	246	7,6,5,4,2,1,
215	7,6,4,2,1,0,	247	7,6,5,4,2,1,0,
216	7,6,4,3,	248	7,6,5,4,3,
217	7,6,4,3,0,	249	7,6,5,4,3,0,
218	7,6,4,3,1,	250	7,6,5,4,3,1,
219	7,6,4,3,1,0,	251	7,6,5,4,3,1,0,
220	7,6,4,3,2,	252	7,6,5,4,3,2,
221	7,6,4,3,2,0,	253	7,6,5,4,3,2,0,
222	7,6,4,3,2,1,	254	7,6,5,4,3,2,1,
223	7,6,4,3,2,1,0,	255	7,6,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
256	8,	288	8,5,
257	8,0,	289	8,5,0,
258	8,1,	290	8,5,1,
259	8,1,0,	291	8,5,1,0,
260	8,2,	292	8,5,2,
261	8,2,0,	293	8,5,2,0,
262	8,2,1,	294	8,5,2,1,
263	8,2,1,0,	295	8,5,2,1,0,
264	8,3,	296	8,5,3,
265	8,3,0,	297	8,5,3,0,
266	8,3,1,	298	8,5,3,1,
267	8,3,1,0,	299	8,5,3,1,0,
268	8,3,2,	300	8,5,3,2,
269	8,3,2,0,	301	8,5,3,2,0,
270	8,3,2,1,	302	8,5,3,2,1,
271	8,3,2,1,0,	303	8,5,3,2,1,0,
272	8,4,	304	8,5,4,
273	8,4,0,	305	8,5,4,0,
274	8,4,1,	306	8,5,4,1,
275	8,4,1,0,	307	8,5,4,1,0,
276	8,4,2,	308	8,5,4,2,
277	8,4,2,0,	309	8,5,4,2,0,
278	8,4,2,1,	310	8,5,4,2,1,
279	8,4,2,1,0,	311	8,5,4,2,1,0,
280	8,4,3,	312	8,5,4,3,
281	8,4,3,0,	313	8,5,4,3,0,
282	8,4,3,1,	314	8,5,4,3,1,
283	8,4,3,1,0,	315	8,5,4,3,1,0,
284	8,4,3,2,	316	8,5,4,3,2,
285	8,4,3,2,0,	317	8,5,4,3,2,0,
286	8,4,3,2,1,	318	8,5,4,3,2,1,
287	8,4,3,2,1,0,	319	8,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
320	8,6,	352	8,6,5,
321	8,6,0,	353	8,6,5,0,
322	8,6,1,	354	8,6,5,1,
323	8,6,1,0,	355	8,6,5,1,0,
324	8,6,2,	356	8,6,5,2,
325	8,6,2,0,	357	8,6,5,2,0,
326	8,6,2,1,	358	8,6,5,2,1,
327	8,6,2,1,0,	359	8,6,5,2,1,0,
328	8,6,3,	360	8,6,5,3,
329	8,6,3,0,	361	8,6,5,3,0,
330	8,6,3,1,	362	8,6,5,3,1,
331	8,6,3,1,0,	363	8,6,5,3,1,0,
332	8,6,3,2,	364	8,6,5,3,2,
333	8,6,3,2,0,	365	8,6,5,3,2,0,
334	8,6,3,2,1,	366	8,6,5,3,2,1,
335	8,6,3,2,1,0,	367	8,6,5,3,2,1,0,
336	8,6,4,	368	8,6,5,4,
337	8,6,4,0,	369	8,6,5,4,0,
338	8,6,4,1,	370	8,6,5,4,1,
339	8,6,4,1,0,	371	8,6,5,4,1,0,
340	8,6,4,2,	372	8,6,5,4,2,
341	8,6,4,2,0,	373	8,6,5,4,2,0,
342	8,6,4,2,1,	374	8,6,5,4,2,1,
343	8,6,4,2,1,0,	375	8,6,5,4,2,1,0,
344	8,6,4,3,	376	8,6,5,4,3,
345	8,6,4,3,0,	377	8,6,5,4,3,0,
346	8,6,4,3,1,	378	8,6,5,4,3,1,
347	8,6,4,3,1,0,	379	8,6,5,4,3,1,0,
348	8,6,4,3,2,	380	8,6,5,4,3,2,
349	8,6,4,3,2,0,	381	8,6,5,4,3,2,0,
350	8,6,4,3,2,1,	382	8,6,5,4,3,2,1,
351	8,6,4,3,2,1,0,	383	8,6,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
384	8,7,	416	8,7,5,
385	8,7,0,	417	8,7,5,0,
386	8,7,1,	418	8,7,5,1,
387	8,7,1,0,	419	8,7,5,1,0,
388	8,7,2,	420	8,7,5,2,
389	8,7,2,0,	421	8,7,5,2,0,
390	8,7,2,1,	422	8,7,5,2,1,
391	8,7,2,1,0,	423	8,7,5,2,1,0,
392	8,7,3,	424	8,7,5,3,
393	8,7,3,0,	425	8,7,5,3,0,
394	8,7,3,1,	426	8,7,5,3,1,
395	8,7,3,1,0,	427	8,7,5,3,1,0,
396	8,7,3,2,	428	8,7,5,3,2,
397	8,7,3,2,0,	429	8,7,5,3,2,0,
398	8,7,3,2,1,	430	8,7,5,3,2,1,
399	8,7,3,2,1,0,	431	8,7,5,3,2,1,0,
400	8,7,4,	432	8,7,5,4,
401	8,7,4,0,	433	8,7,5,4,0,
402	8,7,4,1,	434	8,7,5,4,1,
403	8,7,4,1,0,	435	8,7,5,4,1,0,
404	8,7,4,2,	436	8,7,5,4,2,
405	8,7,4,2,0,	437	8,7,5,4,2,0,
406	8,7,4,2,1,	438	8,7,5,4,2,1,
407	8,7,4,2,1,0,	439	8,7,5,4,2,1,0,
408	8,7,4,3,	440	8,7,5,4,3,
409	8,7,4,3,0,	441	8,7,5,4,3,0,
410	8,7,4,3,1,	442	8,7,5,4,3,1,
411	8,7,4,3,1,0,	443	8,7,5,4,3,1,0,
412	8,7,4,3,2,	444	8,7,5,4,3,2,
413	8,7,4,3,2,0,	445	8,7,5,4,3,2,0,
414	8,7,4,3,2,1,	446	8,7,5,4,3,2,1,
415	8,7,4,3,2,1,0,	447	8,7,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
448	8,7,6,	480	8,7,6,5,
449	8,7,6,0,	481	8,7,6,5,0,
450	8,7,6,1,	482	8,7,6,5,1,
451	8,7,6,1,0,	483	8,7,6,5,1,0,
452	8,7,6,2,	484	8,7,6,5,2,
453	8,7,6,2,0,	485	8,7,6,5,2,0,
454	8,7,6,2,1,	486	8,7,6,5,2,1,
455	8,7,6,2,1,0,	487	8,7,6,5,2,1,0,
456	8,7,6,3,	488	8,7,6,5,3,
457	8,7,6,3,0,	489	8,7,6,5,3,0,
458	8,7,6,3,1,	490	8,7,6,5,3,1,
459	8,7,6,3,1,0,	491	8,7,6,5,3,1,0,
460	8,7,6,3,2,	492	8,7,6,5,3,2,
461	8,7,6,3,2,0,	493	8,7,6,5,3,2,0,
462	8,7,6,3,2,1,	494	8,7,6,5,3,2,1,
463	8,7,6,3,2,1,0,	495	8,7,6,5,3,2,1,0,
464	8,7,6,4,	496	8,7,6,5,4,
465	8,7,6,4,0,	497	8,7,6,5,4,0,
466	8,7,6,4,1,	498	8,7,6,5,4,1,
467	8,7,6,4,1,0,	499	8,7,6,5,4,1,0,
468	8,7,6,4,2,	500	8,7,6,5,4,2,
469	8,7,6,4,2,0,	501	8,7,6,5,4,2,0,
470	8,7,6,4,2,1,	502	8,7,6,5,4,2,1,
471	8,7,6,4,2,1,0,	503	8,7,6,5,4,2,1,0,
472	8,7,6,4,3,	504	8,7,6,5,4,3,
473	8,7,6,4,3,0,	505	8,7,6,5,4,3,0,
474	8,7,6,4,3,1,	506	8,7,6,5,4,3,1,
475	8,7,6,4,3,1,0,	507	8,7,6,5,4,3,1,0,
476	8,7,6,4,3,2,	508	8,7,6,5,4,3,2,
477	8,7,6,4,3,2,0,	509	8,7,6,5,4,3,2,0,
478	8,7,6,4,3,2,1,	510	8,7,6,5,4,3,2,1,
479	8,7,6,4,3,2,1,0,	511	8,7,6,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
512	9,	544	9,5,
513	9,0,	545	9,5,0,
514	9,1,	546	9,5,1,
515	9,1,0,	547	9,5,1,0,
516	9,2,	548	9,5,2,
517	9,2,0,	549	9,5,2,0,
518	9,2,1,	550	9,5,2,1,
519	9,2,1,0,	551	9,5,2,1,0,
520	9,3,	552	9,5,3,
521	9,3,0,	553	9,5,3,0,
522	9,3,1,	554	9,5,3,1,
523	9,3,1,0,	555	9,5,3,1,0,
524	9,3,2,	556	9,5,3,2,
525	9,3,2,0,	557	9,5,3,2,0,
526	9,3,2,1,	558	9,5,3,2,1,
527	9,3,2,1,0,	559	9,5,3,2,1,0,
528	9,4,	560	9,5,4,
529	9,4,0,	561	9,5,4,0,
530	9,4,1,	562	9,5,4,1,
531	9,4,1,0,	563	9,5,4,1,0,
532	9,4,2,	564	9,5,4,2,
533	9,4,2,0,	565	9,5,4,2,0,
534	9,4,2,1,	566	9,5,4,2,1,
535	9,4,2,1,0,	567	9,5,4,2,1,0,
536	9,4,3,	568	9,5,4,3,
537	9,4,3,0,	569	9,5,4,3,0,
538	9,4,3,1,	570	9,5,4,3,1,
539	9,4,3,1,0,	571	9,5,4,3,1,0,
540	9,4,3,2,	572	9,5,4,3,2,
541	9,4,3,2,0,	573	9,5,4,3,2,0,
542	9,4,3,2,1,	574	9,5,4,3,2,1,
543	9,4,3,2,1,0,	575	9,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
576	9,6,	608	9,6,5,
577	9,6,0,	609	9,6,5,0,
578	9,6,1,	610	9,6,5,1,
579	9,6,1,0,	611	9,6,5,1,0,
580	9,6,2,	612	9,6,5,2,
581	9,6,2,0,	613	9,6,5,2,0,
582	9,6,2,1,	614	9,6,5,2,1,
583	9,6,2,1,0,	615	9,6,5,2,1,0,
584	9,6,3,	616	9,6,5,3,
585	9,6,3,0,	617	9,6,5,3,0,
586	9,6,3,1,	618	9,6,5,3,1,
587	9,6,3,1,0,	619	9,6,5,3,1,0,
588	9,6,3,2,	620	9,6,5,3,2,
589	9,6,3,2,0,	621	9,6,5,3,2,0,
590	9,6,3,2,1,	622	9,6,5,3,2,1,
591	9,6,3,2,1,0,	623	9,6,5,3,2,1,0,
592	9,6,4,	624	9,6,5,4,
593	9,6,4,0,	625	9,6,5,4,0,
594	9,6,4,1,	626	9,6,5,4,1,
595	9,6,4,1,0,	627	9,6,5,4,1,0,
596	9,6,4,2,	628	9,6,5,4,2,
597	9,6,4,2,0,	629	9,6,5,4,2,0,
598	9,6,4,2,1,	630	9,6,5,4,2,1,
599	9,6,4,2,1,0,	631	9,6,5,4,2,1,0,
600	9,6,4,3,	632	9,6,5,4,3,
601	9,6,4,3,0,	633	9,6,5,4,3,0,
602	9,6,4,3,1,	634	9,6,5,4,3,1,
603	9,6,4,3,1,0,	635	9,6,5,4,3,1,0,
604	9,6,4,3,2,	636	9,6,5,4,3,2,
605	9,6,4,3,2,0,	637	9,6,5,4,3,2,0,
606	9,6,4,3,2,1,	638	9,6,5,4,3,2,1,
607	9,6,4,3,2,1,0,	639	9,6,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
640	9,7,	672	9,7,5,
641	9,7,0,	673	9,7,5,0,
642	9,7,1,	674	9,7,5,1,
643	9,7,1,0,	675	9,7,5,1,0,
644	9,7,2,	676	9,7,5,2,
645	9,7,2,0,	677	9,7,5,2,0,
646	9,7,2,1,	678	9,7,5,2,1,
647	9,7,2,1,0,	679	9,7,5,2,1,0,
648	9,7,3,	680	9,7,5,3,
649	9,7,3,0,	681	9,7,5,3,0,
650	9,7,3,1,	682	9,7,5,3,1,
651	9,7,3,1,0,	683	9,7,5,3,1,0,
652	9,7,3,2,	684	9,7,5,3,2,
653	9,7,3,2,0,	685	9,7,5,3,2,0,
654	9,7,3,2,1,	686	9,7,5,3,2,1,
655	9,7,3,2,1,0,	687	9,7,5,3,2,1,0,
656	9,7,4,	688	9,7,5,4,
657	9,7,4,0,	689	9,7,5,4,0,
658	9,7,4,1,	690	9,7,5,4,1,
659	9,7,4,1,0,	691	9,7,5,4,1,0,
660	9,7,4,2,	692	9,7,5,4,2,
661	9,7,4,2,0,	693	9,7,5,4,2,0,
662	9,7,4,2,1,	694	9,7,5,4,2,1,
663	9,7,4,2,1,0,	695	9,7,5,4,2,1,0,
664	9,7,4,3,	696	9,7,5,4,3,
665	9,7,4,3,0,	697	9,7,5,4,3,0,
666	9,7,4,3,1,	698	9,7,5,4,3,1,
667	9,7,4,3,1,0,	699	9,7,5,4,3,1,0,
668	9,7,4,3,2,	700	9,7,5,4,3,2,
669	9,7,4,3,2,0,	701	9,7,5,4,3,2,0,
670	9,7,4,3,2,1,	702	9,7,5,4,3,2,1,
671	9,7,4,3,2,1,0,	703	9,7,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
704	9,7,6,	736	9,7,6,5,
705	9,7,6,0,	737	9,7,6,5,0,
706	9,7,6,1,	738	9,7,6,5,1,
707	9,7,6,1,0,	739	9,7,6,5,1,0,
708	9,7,6,2,	740	9,7,6,5,2,
709	9,7,6,2,0,	741	9,7,6,5,2,0,
710	9,7,6,2,1,	742	9,7,6,5,2,1,
711	9,7,6,2,1,0,	743	9,7,6,5,2,1,0,
712	9,7,6,3,	744	9,7,6,5,3,
713	9,7,6,3,0,	745	9,7,6,5,3,0,
714	9,7,6,3,1,	746	9,7,6,5,3,1,
715	9,7,6,3,1,0,	747	9,7,6,5,3,1,0,
716	9,7,6,3,2,	748	9,7,6,5,3,2,
717	9,7,6,3,2,0,	749	9,7,6,5,3,2,0,
718	9,7,6,3,2,1,	750	9,7,6,5,3,2,1,
719	9,7,6,3,2,1,0,	751	9,7,6,5,3,2,1,0,
720	9,7,6,4,	752	9,7,6,5,4,
721	9,7,6,4,0,	753	9,7,6,5,4,0,
722	9,7,6,4,1,	754	9,7,6,5,4,1,
723	9,7,6,4,1,0,	755	9,7,6,5,4,1,0,
724	9,7,6,4,2,	756	9,7,6,5,4,2,
725	9,7,6,4,2,0,	757	9,7,6,5,4,2,0,
726	9,7,6,4,2,1,	758	9,7,6,5,4,2,1,
727	9,7,6,4,2,1,0,	759	9,7,6,5,4,2,1,0,
728	9,7,6,4,3,	760	9,7,6,5,4,3,
729	9,7,6,4,3,0,	761	9,7,6,5,4,3,0,
730	9,7,6,4,3,1,	762	9,7,6,5,4,3,1,
731	9,7,6,4,3,1,0,	763	9,7,6,5,4,3,1,0,
732	9,7,6,4,3,2,	764	9,7,6,5,4,3,2,
733	9,7,6,4,3,2,0,	765	9,7,6,5,4,3,2,0,
734	9,7,6,4,3,2,1,	766	9,7,6,5,4,3,2,1,
735	9,7,6,4,3,2,1,0,	767	9,7,6,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
768	9,8,	800	9,8,5,
769	9,8,0,	801	9,8,5,0,
770	9,8,1,	802	9,8,5,1,
771	9,8,1,0,	803	9,8,5,1,0,
772	9,8,2,	804	9,8,5,2,
773	9,8,2,0,	805	9,8,5,2,0,
774	9,8,2,1,	806	9,8,5,2,1,
775	9,8,2,1,0,	807	9,8,5,2,1,0,
776	9,8,3,	808	9,8,5,3,
777	9,8,3,0,	809	9,8,5,3,0,
778	9,8,3,1,	810	9,8,5,3,1,
779	9,8,3,1,0,	811	9,8,5,3,1,0,
780	9,8,3,2,	812	9,8,5,3,2,
781	9,8,3,2,0,	813	9,8,5,3,2,0,
782	9,8,3,2,1,	814	9,8,5,3,2,1,
783	9,8,3,2,1,0,	815	9,8,5,3,2,1,0,
784	9,8,4,	816	9,8,5,4,
785	9,8,4,0,	817	9,8,5,4,0,
786	9,8,4,1,	818	9,8,5,4,1,
787	9,8,4,1,0,	819	9,8,5,4,1,0,
788	9,8,4,2,	820	9,8,5,4,2,
789	9,8,4,2,0,	821	9,8,5,4,2,0,
790	9,8,4,2,1,	822	9,8,5,4,2,1,
791	9,8,4,2,1,0,	823	9,8,5,4,2,1,0,
792	9,8,4,3,	824	9,8,5,4,3,
793	9,8,4,3,0,	825	9,8,5,4,3,0,
794	9,8,4,3,1,	826	9,8,5,4,3,1,
795	9,8,4,3,1,0,	827	9,8,5,4,3,1,0,
796	9,8,4,3,2,	828	9,8,5,4,3,2,
797	9,8,4,3,2,0,	829	9,8,5,4,3,2,0,
798	9,8,4,3,2,1,	830	9,8,5,4,3,2,1,
799	9,8,4,3,2,1,0,	831	9,8,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
832	9,8,6,	864	9,8,6,5,
833	9,8,6,0,	865	9,8,6,5,0,
834	9,8,6,1,	866	9,8,6,5,1,
835	9,8,6,1,0,	867	9,8,6,5,1,0,
836	9,8,6,2,	868	9,8,6,5,2,
837	9,8,6,2,0,	869	9,8,6,5,2,0,
838	9,8,6,2,1,	870	9,8,6,5,2,1,
839	9,8,6,2,1,0,	871	9,8,6,5,2,1,0,
840	9,8,6,3,	872	9,8,6,5,3,
841	9,8,6,3,0,	873	9,8,6,5,3,0,
842	9,8,6,3,1,	874	9,8,6,5,3,1,
843	9,8,6,3,1,0,	875	9,8,6,5,3,1,0,
844	9,8,6,3,2,	876	9,8,6,5,3,2,
845	9,8,6,3,2,0,	877	9,8,6,5,3,2,0,
846	9,8,6,3,2,1,	878	9,8,6,5,3,2,1,
847	9,8,6,3,2,1,0,	879	9,8,6,5,3,2,1,0,
848	9,8,6,4,	880	9,8,6,5,4,
849	9,8,6,4,0,	881	9,8,6,5,4,0,
850	9,8,6,4,1,	882	9,8,6,5,4,1,
851	9,8,6,4,1,0,	883	9,8,6,5,4,1,0,
852	9,8,6,4,2,	884	9,8,6,5,4,2,
853	9,8,6,4,2,0,	885	9,8,6,5,4,2,0,
854	9,8,6,4,2,1,	886	9,8,6,5,4,2,1,
855	9,8,6,4,2,1,0,	887	9,8,6,5,4,2,1,0,
856	9,8,6,4,3,	888	9,8,6,5,4,3,
857	9,8,6,4,3,0,	889	9,8,6,5,4,3,0,
858	9,8,6,4,3,1,	890	9,8,6,5,4,3,1,
859	9,8,6,4,3,1,0,	891	9,8,6,5,4,3,1,0,
860	9,8,6,4,3,2,	892	9,8,6,5,4,3,2,
861	9,8,6,4,3,2,0,	893	9,8,6,5,4,3,2,0,
862	9,8,6,4,3,2,1,	894	9,8,6,5,4,3,2,1,
863	9,8,6,4,3,2,1,0,	895	9,8,6,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
896	9,8,7,	928	9,8,7,5,
897	9,8,7,0,	929	9,8,7,5,0,
898	9,8,7,1,	930	9,8,7,5,1,
899	9,8,7,1,0,	931	9,8,7,5,1,0,
900	9,8,7,2,	932	9,8,7,5,2,
901	9,8,7,2,0,	933	9,8,7,5,2,0,
902	9,8,7,2,1,	934	9,8,7,5,2,1,
903	9,8,7,2,1,0,	935	9,8,7,5,2,1,0,
904	9,8,7,3,	936	9,8,7,5,3,
905	9,8,7,3,0,	937	9,8,7,5,3,0,
906	9,8,7,3,1,	938	9,8,7,5,3,1,
907	9,8,7,3,1,0,	939	9,8,7,5,3,1,0,
908	9,8,7,3,2,	940	9,8,7,5,3,2,
909	9,8,7,3,2,0,	941	9,8,7,5,3,2,0,
910	9,8,7,3,2,1,	942	9,8,7,5,3,2,1,
911	9,8,7,3,2,1,0,	943	9,8,7,5,3,2,1,0,
912	9,8,7,4,	944	9,8,7,5,4,
913	9,8,7,4,0,	945	9,8,7,5,4,0,
914	9,8,7,4,1,	946	9,8,7,5,4,1,
915	9,8,7,4,1,0,	947	9,8,7,5,4,1,0,
916	9,8,7,4,2,	948	9,8,7,5,4,2,
917	9,8,7,4,2,0,	949	9,8,7,5,4,2,0,
918	9,8,7,4,2,1,	950	9,8,7,5,4,2,1,
919	9,8,7,4,2,1,0,	951	9,8,7,5,4,2,1,0,
920	9,8,7,4,3,	952	9,8,7,5,4,3,
921	9,8,7,4,3,0,	953	9,8,7,5,4,3,0,
922	9,8,7,4,3,1,	954	9,8,7,5,4,3,1,
923	9,8,7,4,3,1,0,	955	9,8,7,5,4,3,1,0,
924	9,8,7,4,3,2,	956	9,8,7,5,4,3,2,
925	9,8,7,4,3,2,0,	957	9,8,7,5,4,3,2,0,
926	9,8,7,4,3,2,1,	958	9,8,7,5,4,3,2,1,
927	9,8,7,4,3,2,1,0,	959	9,8,7,5,4,3,2,1,0,

No.	Indices of the Powers of 2.	No.	Indices of the Powers of 2.
960	9,8,7,6,	992	9,8,7,6,5,
961	9,8,7,6,0,	993	9,8,7,6,5,0,
962	9,8,7,6,1,	994	9,8,7,6,5,1,
963	9,8,7,6,1,0,	995	9,8,7,6,5,1,0,
964	9,8,7,6,2,	996	9,8,7,6,5,2,
965	9,8,7,6,2,0,	997	9,8,7,6,5,2,0,
966	9,8,7,6,2,1,	998	9,8,7,6,5,2,1,
967	9,8,7,6,2,1,0,	999	9,8,7,6,5,2,1,0,
968	9,8,7,6,3,	1000	9,8,7,6,5,3,
969	9,8,7,6,3,0,	1001	9,8,7,6,5,3,0,
970	9,8,7,6,3,1,	1002	9,8,7,6,5,3,1,
971	9,8,7,6,3,1,0,	1003	9,8,7,6,5,3,1,0,
972	9,8,7,6,3,2,	1004	9,8,7,6,5,3,2,
973	9,8,7,6,3,2,0,	1005	9,8,7,6,5,3,2,0,
974	9,8,7,6,3,2,1,	1006	9,8,7,6,5,3,2,1,
975	9,8,7,6,3,2,1,0,	1007	9,8,7,6,5,3,2,1,0,
976	9,8,7,6,4,	1008	9,8,7,6,5,4,
977	9,8,7,6,4,0,	1009	9,8,7,6,5,4,0,
978	9,8,7,6,4,1,	1010	9,8,7,6,5,4,1,
979	9,8,7,6,4,1,0,	1011	9,8,7,6,5,4,1,0,
980	9,8,7,6,4,2,	1012	9,8,7,6,5,4,2,
981	9,8,7,6,4,2,0,	1013	9,8,7,6,5,4,2,0,
982	9,8,7,6,4,2,1,	1014	9,8,7,6,5,4,2,1,
983	9,8,7,6,4,2,1,0,	1015	9,8,7,6,5,4,2,1,0,
984	9,8,7,6,4,3,	1016	9,8,7,6,5,4,3,
985	9,8,7,6,4,3,0,	1017	9,8,7,6,5,4,3,0,
986	9,8,7,6,4,3,1,	1018	9,8,7,6,5,4,3,1,
987	9,8,7,6,4,3,1,0,	1019	9,8,7,6,5,4,3,1,0,
988	9,8,7,6,4,3,2,	1020	9,8,7,6,5,4,3,2,
989	9,8,7,6,4,3,2,0,	1021	9,8,7,6,5,4,3,2,0,
990	9,8,7,6,4,3,2,1,	1022	9,8,7,6,5,4,3,2,1,
991	9,8,7,6,4,3,2,1,0,	1023	9,8,7,6,5,4,3,2,1,0,

Leading Numb.	Indices of the Powers of 2.	Leading Numb.	Indices of the Powers of 2.
0		32768	15,
1024	10,	33792	15,10,
2048	11,	34816	15,11,
3072	11,10,	35840	15,11,10,
4096	12,	36864	15,12,
5120	12,10,	37888	15,12,10,
6144	12,11,	38912	15,12,11,
7168	12,11,10,	39936	15,12,11,10,
8192	13,	40960	15,13,
9216	13,10,	41984	15,13,10,
10240	13,11,	43008	15,13,11,
11264	13,11,10,	44032	15,13,11,10,
12288	13,12,	45056	15,13,12,
13312	13,12,10,	46080	15,13,12,10,
14336	13,12,11,	47104	15,13,12,11,
15360	13,12,11,10,	48128	15,13,12,11,10,
16384	14,	49152	15,14,
17408	14,10,	50176	15,14,10,
18432	14,11,	51200	15,14,11,
19456	14,11,10,	52224	15,14,11,10,
20480	14,12,	53248	15,14,12,
21504	14,12,10,	54272	15,14,12,10,
22528	14,12,11,	55296	15,14,12,11,
23552	14,12,11,10,	56320	15,14,12,11,10,
24576	14,13,	57344	15,14,13,
25600	14,13,10,	58368	15,14,13,10,
26624	14,13,11,	59392	15,14,13,11,
27648	14,13,11,10,	60416	15,14,13,11,10,
28672	14,13,12,	61440	15,14,13,12,
29696	14,13,12,10,	62464	15,14,13,12,10,
30720	14,13,12,11,	63488	15,14,13,12,11,
31744	14,13,12,11,10,	64512	15,14,13,12,11,10,

Leading Numb.	Indices of the Powers of 2.	Leading Numbers.	Indices of the Powers of 2.
65536	16,	98304	16,15,
66560	16,10,	99328	16,15,10,
67584	16,11,	100352	16,15,11,
68608	16,11,10,	101376	16,15,11,10,
69632	16,12,	102400	16,15,12,
70656	16,12,10,	103424	16,15,12,10,
71680	16,12,11,	104448	16,15,12,11,
72704	16,12,11,10,	105472	16,15,12,11,10,
73728	16,13,	106496	16,15,13,
74752	16,13,10,	107520	16,15,13,10,
75776	16,13,11,	108544	16,15,13,11,
76800	16,13,11,10,	109568	16,15,13,11,10,
77824	16,13,12,	110592	16,15,13,12,
78848	16,13,12,10,	111616	16,15,13,12,10,
79872	16,13,12,11,	112640	16,15,13,12,11,
80896	16,13,12,11,10,	113664	16,15,13,12,11,10,
81920	16,14,	114688	16,15,14,
82944	16,14,10,	115712	16,15,14,10,
83968	16,14,11,	116736	16,15,14,11,
84992	16,14,11,10,	117760	16,15,14,11,10,
86016	16,14,12,	118784	16,15,14,12,
87040	16,14,12,10,	119808	16,15,14,12,10,
88064	16,14,12,11,	120832	16,15,14,12,11,
89088	16,14,12,11,10,	121856	16,15,14,12,11,10,
90112	16,14,13,	122880	16,15,14,13,
91136	16,14,13,10,	123904	16,15,14,13,10,
92160	16,14,13,11,	124928	16,15,14,13,11,
93184	16,14,13,11,10,	125952	16,15,14,13,11,10,
94208	16,14,13,12,	126976	16,15,14,13,12,
95232	16,14,13,12,10,	128000	16,15,14,13,12,10,
96256	16,14,13,12,11,	129024	16,15,14,13,12,11,
97280	16,14,13,12,11,10,	130048	16,15,14,13,12,11,10,

END OF THE TABLE, FROM THE BINARY SCALE.

TERNARY TABLE.

OR,

A TABLE OF INDICES OF THE POWERS OF THE NUMBER 3,

THAT PRODUCE ALL NUMBERS

FROM 1, TO 3985807.

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
−10		2,0,	7654 −
−9		2,	⊕ −6561 + (8)
−8	0,	2,	5468 +
−7	1,	2,0,	5467 −
−6	1,	2,	⊕ −4374 +
−5	1,0,	2,	3281 +
−4		1,0,	3280 −
−3		1,	⊕ −2187 + (7)
−2	0,	1,	1094 +
−1		0,	1093 −
0	*Zero.*	*Zero.*	⊕ 0 +
+1	0,		1093 +
+2	1,	0,	1094 −
+3	1,		⊕ +2187 + (7)
+4	1,0,		3280 +
5	2,	1,0,	3281 −
6	2,	1,	⊕ +4374 +
7	2,0,	1,	5467 +
8	2,	0,	5468 −
9	2,		⊕ +6561 + (8)
10	2,0,		7654 +
11	2,1,	0,	7655 −
12	2,1,		⊕ +8748 +
13	2,1,0,		9841 +
14	3,	2,1,0,	9842 −
15	3,	2,1,	⊕ 10935 +
16	3,0,	2,1,	12028 +
17	3,	2,0,	12029 −
18	3,	2,	⊕ 13122 +
19	3,0,	2,	14215 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
20	3,1,	2,0,	14216 −
21	3,1,	2,	⊕ 15309 +
22	3,1,0,	2,	16402
23	3,	1,0,	16403 −
24	3,	1,	⊕ 17496 +
25	3,0,	1,	18589
26	3,	0,	18590 −
27	3,		⊕ 19683 + (9)
28	3,0,		20776
29	3,1,	0,	20777 −
30	3,1,		⊕ 21870 +
31	3,1,0,		22963
32	3,2,	1,0,	22964 −
33	3,2,	1,	⊕ 24057 +
34	3,2,0,	1,	25150
35	3,2,	0,	25151 −
36	3,2,		⊕ 26244 +
37	3,2,0,		27337
38	3,2,1,	0,	27338 −
39	3,2,1,		⊕ 28431 +
40	3,2,1,0,		29524
41	4,	3,2,1,0,	29525 −
42	4,	3,2,1,	⊕ 30618 +
43	4,0,	3,2,1,	31711
44	4,	3,2,0,	31712 −
45	4,	3,2,	⊕ 32805 +
46	4,0,	3,2,	33898
47	4,1,	3,2,0,	33899 −
48	4,1,	3,2,	⊕ 34992 +
49	4,1,0,	3,2,	36085

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
50	4,	3,1,0,	36086 −
51	4,	3,1,	⊕ 37179 −
52	4,0,	3,1,	38272 +
53	4,	3,0,	38273 −
54	4,	3,	⊕ 39366 −
55	4,0,	3,	40459 +
56	4,1,	3,0,	40460 −
57	4,1,	3,	⊕ 41553 −
58	4,1,0,	3,	42646 +
59	4,2,	3,1,0,	42647 −
60	4,2,	3,1,	⊕ 43740 −
61	4,2,0,	3,1,	44833 +
62	4,2,	3,0,	44834 −
63	4,2,	3,	⊕ 45927 −
64	4,2,0,	3,	47020 +
65	4,2,1,	3,0,	47021 −
66	4,2,1,	3,	⊕ 48114 −
67	4,2,1,0,	3,	49207 +
68	4,	2,1,0,	49208 −
69	4,	2,1,	⊕ 50301 −
70	4,0,	2,1,	51394 +
71	4,	2,0,	51395 −
72	4,	2,	⊕ 52488 −
73	4,0,	2,	53581 +
74	4,1,	2,0,	53582 −
75	4,1,	2,	⊕ 54675 −
76	4,1,0,	2,	55768 +
77	4,	1,0,	55769 −
78	4,	1,	⊕ 56862 −
79	4,0,	1,	57955 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
80	4,	0,	57956 −
81	4,		⊕ 59049 − (10)
82	4,0,		60142 +
83	4,1,	0,	60143 −
84	4,1,		⊕ 61236 −
85	4,1,0,		62329 +
86	4,2,	1,0,	62330 −
87	4,2,	1,	⊕ 63423 −
88	4,2,0,	1,	64516 +
89	4,2,	0,	64517 −
90	4,2,		⊕ 65610 −
91	4,2,0,		66703 +
92	4,2,1,	0,	66704 −
93	4,2,1,		⊕ 67797 −
94	4,2,1,0,		68890 +
95	4,3,	2,1,0,	68891 −
96	4,3,	2,1,	⊕ 69984 −
97	4,3,0,	2,1,	71077 +
98	4,3,	2,0,	71078 −
99	4,3,	2,	⊕ 72171 −
100	4,3,0,	2,	73264 +
101	4,3,1,	2,0,	73265 −
102	4,3,1,	2,	⊕ 74358 −
103	4,3,1,0,	2,	75451 +
104	4,3,	1,0,	75452 −
105	4,3,	1,	⊕ 76545 −
106	4,3,0,	1,	77638 +
107	4,3,	0,	77639 −
108	4,3,		⊕ 78732 −
109	4,3,0,		79825 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
110	4,3,1,	0,	79826 −
111	4,3,1,		⊕ 80919 −
112	4,3,1,0,		82012 +
113	4,3,2,	1,0,	82013 −
114	4,3,2,	1,	⊕ 83106 −
115	4,3,2,0,	1,	84199 +
116	4,3,2,	0,	84200 −
117	4,3,2,		⊕ 85293 −
118	4,3,2,0,		86386 +
119	4,3,2,1,	0,	86387 −
120	4,3,2,1,		⊕ 87480 −
121	4,3,2,1,0,		88573 +
122	5,	4,3,2,1,0,	88574 −
123	5,	4,3,2,1,	⊕ 89667 −
124	5,0,	4,3,2,1,	90760 +
125	5,	4,3,2,0,	90761 −
126	5,	4,3,2,	⊕ 91854 −
127	5,0,	4,3,2,	92947 +
128	5,1,	4,3,2,0,	92948 −
129	5,1,	4,3,2,	⊕ 94041 −
130	5,1,0,	4,3,2,	95134 +
131	5,	4,3,1,0,	95135 −
132	5,	4,3,1,	⊕ 96228 −
133	5,0,	4,3,1,	97321 +
134	5,	4,3,0,	97322 −
135	5,	4,3,	⊕ 98415 −
136	5,0,	4,3,	99508 +
137	5,1,	4,3,0,	99509 −
138	5,1,	4,3,	⊕ 100602 −
139	5,1,0,	4,3,	101695 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
140	5,2,	4,3,1,0,	101696 −
141	5,2,	4,3,1,	⊕ 102789 −
142	5,2,0,	4,3,1,	103882 +
143	5,2,	4,3,0,	103883 −
144	5,2,	4,3,	⊕ 104976 −
145	5,2,0,	4,3,	106069 +
146	5,2,1,	4,3,0,	106070 −
147	5,2,1,	4,3,	⊕ 107163 −
148	5,2,1,0,	4,3,	108256 +
149	5,	4,2,1,0,	108257 −
150	5,	4,2,1,	⊕ 109350 −
151	5,0,	4,2,1,	110443 +
152	5,	4,2,0,	110444 −
153	5,	4,2,	⊕ 111537 −
154	5,0,	4,2,	112630 +
155	5,1,	4,2,0,	112631 −
156	5,1,	4,2,	⊕ 113724 −
157	5,1,0,	4,2,	114817 +
158	5,	4,1,0,	114818 −
159	5,	4,1,	⊕ 115911 −
160	5,0,	4,1,	117004 +
161	5,	4,0,	117005 −
162	5,	4,	⊕ 118098 −
163	5,0,	4,	119191 +
164	5,1,	4,0,	119192 −
165	5,1,	4,	⊕ 120285 −
166	5,1,0,	4,	121378 +
167	5,2,	4,1,0,	121379 −
168	5,2,	4,1,	⊕ 122472 −
169	5,2,0,	4,1,	123565 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
170	5,2,	4,0,	123566 −
171	5,2,	4,	⊕ 124659
172	5,2,0,	4,	125752 +
173	5,2,1,	4,0,	125753 −
174	5,2,1,	4,	⊕ 126846
175	5,2,1,0,	4,	127939 +
176	5,3,	4,2,1,0,	127940 −
177	5,3,	4,2,1,	⊕ 129033
178	5,3,0,	4,2,1,	130126 +
179	5,3,	4,2,0,	130127 −
180	5,3,	4,2,	⊕ 131220
181	5,3,0,	4,2,	132313 +
182	5,3,1,	4,2,0,	132314 −
183	5,3,1,	4,2,	⊕ 133407
184	5,3,1,0,	4,2,	134500 +
185	5,3,	4,1,0,	134501 −
186	5,3,	4,1,	⊕ 135594
187	5,3,0,	4,1,	136687 +
188	5,3,	4,0,	136688 −
189	5,3,	4,	⊕ 137781
190	5,3,0,	4,	138874 +
191	5,3,1,	4,0,	138875 −
192	5,3,1,	4,	⊕ 139968
193	5,3,1,0,	4,	141061 +
194	5,3,2,	4,1,0,	141062 −
195	5,3,2,	4,1,	⊕ 142155
196	5,3,2,0,	4,1,	143248 +
197	5,3,2,	4,0,	143249 −
198	5,3,2,	4,	⊕ 144342
199	5,3,2,0,	4,	145435 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
200	5,3,2,1,	4,0,	145436 −
201	5,3,2,1,	4,	⊕ 146529 − +
202	5,3,2,1,0,	4,	147622 +
203	5,	3,2,1,0,	147623 −
204	5,	3,2,1,	⊕ 148716 − +
205	5,0,	3,2,1,	149809 +
206	5,	3,2,0,	149810 −
207	5,	3,2,	⊕ 150903 − +
208	5,0,	3,2,	151996 +
209	5,1,	3,2,0,	151997 −
210	5,1,	3,2,	⊕ 153090 − +
211	5,1,0,	3,2,	154183 +
212	5,	3,1,0,	154184 −
213	5,	3,1,	⊕ 155277 − +
214	5,0,	3,1,	156370 +
215	5,	3,0,	156371 −
216	5,	3,	⊕ 157464 − +
217	5,0,	3,	158557 +
218	5,1,	3,0,	158558 −
219	5,1,	3,	⊕ 159651 − +
220	5,1,0,	3,	160744 +
221	5,2,	3,1,0,	160745 −
222	5,2,	3,1,	⊕ 161838 − +
223	5,2,0,	3,1,	162931 +
224	5,2,	3,0,	162932 −
225	5,2,	3,	⊕ 164025 − +
226	5,2,0,	3,	165118 +
227	5,2,1,	3,0,	165119 −
228	5,2,1,	3,	⊕ 166212 − +
229	5,2,1,0,	3,	167305 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
230	5,	2,1,0,	167306 −
231	5,	2,1,	⊕ 168399 −
232	5,0,	2,1,	169492 +
233	5,	2,0,	169493 −
234	5,	2,	⊕ 170586 −
235	5,0,	2,	171679 +
236	5,1,	2,0,	171680 −
237	5,1,	2,	⊕ 172773 −
238	5,1,0,	2,	173866 +
239	5,	1,0,	173867 −
240	5,	1,	⊕ 174960 −
241	5,0,	1,	176053 +
242	5,	0,	176054 −
243	5,		⊕ 177147 − (11)
244	5,0,		178240 +
245	5,1,	0,	178241 −
246	5,1,		⊕ 179334 −
247	5,1,0,		180427 +
248	5,2,	1,0,	180428 −
249	5,2,	1,	⊕ 181521 −
250	5,2,0,	1,	182614 +
251	5,2,	0,	182615 −
252	5,2,		⊕ 183708 −
253	5,2,0,		184801 +
254	5,2,1,	0,	184802 −
255	5,2,1,		⊕ 185895 −
256	5,2,1,0,		186988 +
257	5,3,	2,1,0,	186989 −
258	5,3,	2,1,	⊕ 188082 −
259	5,3,0,	2,1,	189175 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
260	5,3,	2,0,	189176 −
261	5,3,	2,	⊕ 190269 −
262	5,3,0,	2,	191362 +
263	5,3,1,	2,0,	191363 −
264	5,3,1,	2,	⊕ 192456 −
265	5,3,1,0,	2,	193549 +
266	5,3,	1,0,	193550 −
267	5,3,	1,	⊕ 194643 −
268	5,3,0,	1,	195736 +
269	5,3,	0,	195737 −
270	5,3,		⊕ 196830 −
271	5,3,0,		197923 +
272	5,3,1,	0,	197924 −
273	5,3,1,		⊕ 199017 −
274	5,3,1,0,		200110 +
275	5,3,2,	1,0,	200111 −
276	5,3,2,	1,	⊕ 201204 −
277	5,3,2,0,	1,	202297 +
278	5,3,2,	0,	202298 −
279	5,3,2,		⊕ 203391 −
280	5,3,2,0,		204484 +
281	5,3,2,1,	0,	204485 −
282	5,3,2,1,		⊕ 205578 −
283	5,3,2,1,0,		206671 +
284	5,4,	3,2,1,0,	206672 −
285	5,4,	3,2,1,	⊕ 207765 −
286	5,4,0,	3,2,1,	208858 +
287	5,4,	3,2,0,	208859 −
288	5,4,	3,2,	⊕ 209952 −
289	5,4,0,	3,2,	211045 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
290	5,4,1,	3,2,0,	211046 −
291	5,4,1,	3,2,	⊕ 212139 −
292	5,4,1,0,	3,2,	213232 +
293	5,4,	3,1,0,	213233 −
294	5,4,	3,1,	⊕ 214326 −
295	5,4,0,	3,1,	215419 +
296	5,4,	3,0,	215420 −
297	5,4,	3,	⊕ 216513 −
298	5,4,0,	3,	217606 +
299	5,4,1,	3,0,	217607 −
300	5,4,1,	3,	⊕ 218700 −
301	5,4,1,0,	3,	219793 +
302	5,4,2,	3,1,0,	219794 −
303	5,4,2,	3,1,	⊕ 220887 −
304	5,4,2,0,	3,1,	221980 +
305	5,4,2,	3,0,	221981 −
306	5,4,2,	3,	⊕ 223074 −
307	5,4,2,0,	3,	224167 +
308	5,4,2,1,	3,0,	224168 −
309	5,4,2,1,	3,	⊕ 225261 −
310	5,4,2,1,0,	3,	226354 +
311	5,4,	2,1,0,	226355 −
312	5,4,	2,1,	⊕ 227448 −
313	5,4,0,	2,1,	228541 +
314	5,4,	2,0,	228542 −
315	5,4,	2,	⊕ 229635 −
316	5,4,0,	2,	230728 +
317	5,4,1,	2,0,	230729 −
318	5,4,1,	2,	⊕ 231822 −
319	5,4,1,0,	2,	232915 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
320 321 322	5,4, 5,4, 5,4,0,	1,0, 1, 1,	232916 − ⊕ 234009 235102 +
323 324 325	5,4, 5,4, 5,4,0,	0,	235103 − ⊕ 236196 237289 +
326 327 328	5,4,1, 5,4,1, 5,4,1,0,	0,	237290 − ⊕ 238383 239476 +
329 330 331	5,4,2, 5,4,2, 5,4,2,0,	1,0, 1, 1,	239477 − ⊕ 240570 241663 +
332 333 334	5,4,2, 5,4,2, 5,4,2,0,	0,	241664 − ⊕ 242757 243850 +
335 336 337	5,4,2,1, 5,4,2,1, 5,4,2,1,0,	0,	243851 − ⊕ 244944 246037 +
338 339 340	5,4,3, 5,4,3, 5,4,3,0,	2,1,0, 2,1, 2,1,	246038 − ⊕ 247131 248224 +
341 342 343	5,4,3, 5,4,3, 5,4,3,0,	2,0, 2, 2,	248225 − ⊕ 249318 250411 +
344 345 346	5,4,3,1, 5,4,3,1, 5,4,3,1,0,	2,0, 2, 2,	250412 − ⊕ 251505 252598 +
347 348 349	5,4,3, 5,4,3, 5,4,3,0,	1,0, 1, 1,	252599 − ⊕ 253692 254785 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
350	5,4,3,	0,	254786 −
351	5,4,3,		⊕ 255879 −
352	5,4,3,0,		256972 +
353	5,4,3,1,	0,	256973 −
354	5,4,3,1,		⊕ 258066 −
355	5,4,3,1,0,		259159 +
356	5,4,3,2,	1,0,	259160 −
357	5,4,3,2,	1,	⊕ 260253 −
358	5,4,3,2,0,	1,	261346 +
359	5,4,3,2,	0,	261347 −
360	5,4,3,2,		⊕ 262440 −
361	5,4,3,2,0,		263533 +
362	5,4,3,2,1,	0,	263534 −
363	5,4,3,2,1,		⊕ 264627 −
364	5,4,3,2,1,0,		265720 +
365	6,	5,4,3,2,1,0,	265721 −
366	6,	5,4,3,2,1,	⊕ 266814 −
367	6,0,	5,4,3,2,1,	267907 +
368	6,	5,4,3,2,0,	267908 −
369	6,	5,4,3,2,	⊕ 269001 −
370	6,0,	5,4,3,2,	270094 +
371	6,1,	5,4,3,2,0,	270095 −
372	6,1,	5,4,3,2,	⊕ 271188 −
373	6,1,0,	5,4,3,2,	272281 +
374	6,	5,4,3,1,0,	272282 −
375	6,	5,4,3,1,	⊕ 273375 −
376	6,0,	5,4,3,1,	274468 +
377	6,	5,4,3,0,	274469 −
378	6,	5,4,3,	⊕ 275562 −
379	6,0,	5,4,3,	276655 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
380	6,1,	5,4,3,0,	276656 −
381	6,1,	5,4,3,	⊕ 277749 − +
382	6,1,0,	5,4,3,	278842 +
383	6,2,	5,4,3,1,0,	278843 −
384	6,2,	5,4,3,1,	⊕ 279936 − +
385	6,2,0,	5,4,3,1,	281029 +
386	6,2,	5,4,3,0,	281030 −
387	6,2,	5,4,3,	⊕ 282123 − +
388	6,2,0,	5,4,3,	283216 +
389	6,2,1,	5,4,3,0,	283217 −
390	6,2,1,	5,4,3,	⊕ 284310 − +
391	6,2,1,0,	5,4,3,	285403 +
392	6,	5,4,2,1,0,	285404 −
393	6,	5,4,2,1,	⊕ 286497 − +
394	6,0,	5,4,2,1,	287590 +
395	6,	5,4,2,0,	287591 −
396	6,	5,4,2,	⊕ 288684 − +
397	6,0,	5,4,2,	289777 +
398	6,1,	5,4,2,0,	289778 −
399	6,1,	5,4,2,	⊕ 290871 − +
400	6,1,0,	5,4,2,	291864 +
401	6,	5,4,1,0,	291865 −
402	6,	5,4,1,	⊕ 293058 − +
403	6,0,	5,4,1,	294151 +
404	6,	5,4,0,	294152 −
405	6,	5,4,	⊕ 295245 − +
406	6,0,	5,4,	296338 +
407	6,1,	5,4,0,	296339 −
408	6,1,	5,4,	⊕ 297432 − +
409	6,1,0,	5,4,	298525 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
410	6,2,	5,4,1,0,	298526 −
411	6,2,	5,4,1,	⊕ 299619 −
412	6,2,0,	5,4,1,	300712 +
413	6,2,	5,4,0,	300713 −
414	6,2,	5,4,	⊕ 301806 −
415	6,2,0,	5,4,	302899 +
416	6,2,1,	5,4,0,	302900 −
417	6,2,1,	5,4,	⊕ 303993 −
418	6,2,1,0,	5,4,	305086 +
419	6,3,	5,4,2,1,0,	305087 −
420	6,3,	5,4,2,1,	⊕ 306180 −
421	6,3,0,	5,4,2,1,	307273 +
422	6,3,	5,4,2,0,	307274 −
423	6,3,	5,4,2,	⊕ 308367 −
424	6,3,0,	5,4,2,	309460 +
425	6,3,1,	5,4,2,0,	309461 −
426	6,3,1,	5,4,2,	⊕ 310554 −
427	6,3,1,0,	5,4,2,	311647 +
428	6,3,	5,4,1,0,	311648 −
429	6,3,	5,4,1,	⊕ 312741 −
430	6,3,0,	5,4,1,	313834 +
431	6,3,	5,4,0,	313835 −
432	6,3,	5,4,	⊕ 314928 −
433	6,3,0,	5,4,	316021 +
434	6,3,1,	5,4,0,	316022 −
435	6,3,1,	5,4,	⊕ 317115 −
436	6,3,1,0,	5,4,	318208 +
437	6,3,2,	5,4,1,0,	318209 −
438	6,3,2,	5,4,1,	⊕ 319302 −
439	6,3,2,0,	5,4,1,	320395 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
440	6,3,2,	5,4,0,	320396 −
441	6,3,2,	5,4,	⊕ 321489 −
442	6,3,2,0,	5,4,	322582 +
443	6,3,2,1,	5,4,0,	322583 −
444	6,3,2,1,	5,4,	⊕ 323676 −
445	6,3,2,1,0,	5,4,	324769 +
446	6,	5,3,2,1,0,	324770 −
447	6,	5,3,2,1,	⊕ 325863 −
448	6,0,	5,3,2,1,	326956 +
449	6,	5,3,2,0,	326957 −
450	6,	5,3,2,	⊕ 328050 −
451	6,0,	5,3,2,	329143 +
452	6,1,	5,3,2,0,	329144 −
453	6,1,	5,3,2,	⊕ 330237 −
454	6,1,0,	5,3,2,	331330 +
455	6,	5,3,1,0,	331331 −
456	6,	5,3,1,	⊕ 332424 −
457	6,0,	5,3,1,	333517 +
458	6,	5,3,0,	333518 −
459	6,	5,3,	⊕ 334611 −
460	6,0,	5,3,	335704 +
461	6,1,	5,3,0,	335705 −
462	6,1,	5,3,	⊕ 336798 −
463	6,1,0,	5,3,	337891 +
464	6,2,	5,3,1,0,	337892 −
465	6,2,	5,3,1,	⊕ 338985 −
466	6,2,0,	5,3,1,	340078 +
467	6,2,	5,3,0,	340079 −
468	6,2,	5,3,	⊕ 341172 −
469	6,2,0,	5,3,	342265 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
470	6,2,1,	5,3,0,	342266 −
471	6,2,1,	5,3,	⊕ 343359
472	6,2,1,0,	5,3,	344452 +
473	6,	5,2,1,0,	344453 −
474	6,	5,2,1,	⊕ 345546
475	6,0,	5,2,1,	346639 +
476	6,	5,2,0,	346640 −
477	6,	5,2,	⊕ 347733
478	6,0,	5,2,	348826 +
479	6,1,	5,2,0,	348827 −
480	6,1,	5,2,	⊕ 349920
481	6,1,0,	5,2,	351013 +
482	6,	5,1,0,	351014 −
483	6,	5,1,	⊕ 352107
484	6,0,	5,1,	353200 +
485	6,	5,0,	353201 −
486	6,	5,	⊕ 354294
487	6,0,	5,	355387 +
488	6,1,	5,0,	355388 −
489	6,1,	5,	⊕ 356481
490	6,1,0,	5,	357574 +
491	6,2,	5,1,0,	357575 −
492	6,2,	5,1,	⊕ 358668
493	6,2,0,	5,1,	359761 +
494	6,2,	5,0,	359762 −
495	6,2,	5,	⊕ 360855
496	6,2,0,	5,	361948 +
497	6,2,1,	5,0,	361949 −
498	6,2,1,	5,	⊕ 363042
499	6,2,1,0,	5,	364135 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
500	6,3,	5,2,1,0,	364136 −
501	6,3,	5,2,1,	⊕ 365229 − +
502	6,3,0,	5,2,1,	366322 +
503	6,3,	5,2,0,	366323 −
504	6,3,	5,2,	⊕ 367416 − +
505	6,3,0,	5,2,	368509 +
506	6,3,1,	5,2,0,	368510 −
507	6,3,1,	5,2,	⊕ 369603 − +
508	6,3,1,0,	5,2,	370696 +
509	6,3,	5,1,0,	370697 −
510	6,3,	5,1,	⊕ 371790 − +
511	6,3,0,	5,1,	372883 +
512	6,3,	5,0,	372884 −
513	6,3,	5,	⊕ 373977 − +
514	6,3,0,	5,	375070 +
515	6,3,1,	5,0,	375071 −
516	6,3,1,	5,	⊕ 376164 − +
517	6,3,1,0,	5,	377257 +
518	6,3,2,	5,1,0,	377258 −
519	6,3,2,	5,1,	⊕ 378351 − +
520	6,3,2,0,	5,1,	379444 +
521	6,3,2,	5,0,	379445 −
522	6,3,2,	5,	⊕ 380538 − +
523	6,3,2,0,	5,	381631 +
524	6,3,2,1,	5,0,	381632 −
525	6,3,2,1,	5,	⊕ 382725 − +
526	6,3,2,1,0,	5,	383818 +
527	6,4,	5,3,2,1,0,	383819 −
528	6,4,	5,3,2,1,	⊕ 384912 − +
529	6,4,0,	5,3,2,1,	386005 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
530	6,4,	5,3,2,0,	386006 −
531	6,4,	5,3,2,	⊕ 387099 − +
532	6,4,0,	5,3,2,	388192 +
533	6,4,1,	5,3,2,0,	388193 −
534	6,4,1,	5,3,2,	⊕ 389286 − +
535	6,4,1,0,	5,3,2,	390379 +
536	6,4,	5,3,1,0,	390380 −
537	6,4,	5,3,1,	⊕ 391473 − +
538	6,4,0,	5,3,1,	392566 +
539	6,4,	5,3,0,	392567 −
540	6,4,	5,3,	⊕ 393660 − +
541	6,4,0,	5,3,	394753 +
542	6,4,1,	5,3,0,	394754 −
543	6,4,1,	5,3,	⊕ 395847 − +
544	6,4,1,0,	5,3,	396940 +
545	6,4,2,	5,3,1,0,	396941 −
546	6,4,2,	5,3,1,	⊕ 398034 − +
547	6,4,2,0,	5,3,1,	399127 +
548	6,4,2,	5,3,0,	399128 −
549	6,4,2,	5,3,	⊕ 400221 − +
550	6,4,2,0,	5,3,	401314 +
551	6,4,2,1,	5,3,0,	401315 −
552	6,4,2,1,	5,3,	⊕ 402408 − +
553	6,4,2,1,0,	5,3,	403501 +
554	6,4,	5,2,1,0,	403502 −
555	6,4,	5,2,1,	⊕ 404595 − +
556	6,4,0,	5,2,1,	405688 +
557	6,4,	5,2,0,	405689 −
558	6,4,	5,2,	⊕ 406782 − +
559	6,4,0,	5,2,	407875 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
560	6,4,1,	5,2,0,	407876 −
561	6,4,1,	5,2,	⊕ 408969 −
562	6,4,1,0,	5,2,	410062 +
563	6,4,	5,1,0,	410063 −
564	6,4,	5,1,	⊕ 411156 −
565	6,4,0,	5,1,	412249 +
566	6,4,	5,0,	412250 −
567	6,4,	5,	⊕ 413343 −
568	6,4,0,	5,	414436 +
569	6,4,1,	5,0,	414437 −
570	6,4,1,	5,	⊕ 415530 −
571	6,4,1,0,	5,	416623 +
572	6,4,2,	5,1,0,	416624 −
573	6,4,2,	5,1,	⊕ 417717 −
574	6,4,2,0,	5,1,	418810 +
575	6,4,2,	5,0,	418811 −
576	6,4,2,	5,	⊕ 419904 −
577	6,4,2,0,	5,	420997 +
578	6,4,2,1,	5,0,	420998 −
579	6,4,2,1,	5,	⊕ 422091 −
580	6,4,2,1,0,	5,	423184 +
581	6,4,3,	5,2,1,0,	423185 −
582	6,4,3,	5,2,1,	⊕ 424278 −
583	6,4,3,0,	5,2,1,	425371 +
584	6,4,3,	5,2,0,	425372 −
585	6,4,3,	5,2,	⊕ 426465 −
586	6,4,3,0,	5,2,	427558 +
587	6,4,3,1,	5,2,0,	427559 −
588	6,4,3,1,	5,2,	⊕ 428652 −
589	6,4,3,1,0,	5,2,	429745 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
590	6,4,3,	5,1,0,	429746 −
591	6,4,3,	5,1,	⊕ 430839 −
592	6,4,3,0,	5,1,	431932 +
593	6,4,3,	5,0,	431933 −
594	6,4,3,	5,	⊕ 433026 −
595	6,4,3,0,	5,	434119 +
596	6,4,3,1,	5,0,	434120 −
597	6,4,3,1,	5,	⊕ 435213 −
598	6,4,3,1,0,	5,	436306 +
599	6,4,3,2,	5,1,0,	436307 −
600	6,4,3,2,	5,1,	⊕ 437400 −
601	6,4,3,2,0,	5,1,	438493 +
602	6,4,3,2,	5,0,	438494 −
603	6,4,3,2,	5,	⊕ 439587 −
604	6,4,3,2,0,	5,	440680 +
605	6,4,3,2,1,	5,0,	440681 −
606	6,4,3,2,1,	5,	⊕ 441774 −
607	6,4,3,2,1,0,	5,	442867 +
608	6,	4,3,2,1,0,	442868 −
609	6,	4,3,2,1,	⊕ 443961 −
610	6,0,	4,3,2,1,	445054 +
611	6,	4,3,2,0,	445055 −
612	6,	4,3,2,	⊕ 446148 −
613	6,0,	4,3,2,	447241 +
614	6,1,	4,3,2,0,	447242 −
615	6,1,	4,3,2,	⊕ 448335 −
616	6,1,0,	4,3,2,	449428 +
617	6,	4,3,1,0,	449429 −
618	6,	4,3,1,	⊕ 450522 −
619	6,0,	4,3,1,	451615 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
620	6,	4,3,0,	451616 −
621	6,	4,3,	⊕ 452709 − +
622	6,0,	4,3,	453802 +
623	6,1,	4,3,0,	453803 −
624	6,1,	4,3,	⊕ 454896 − +
625	6,1,0,	4,3,	455989 +
626	6,2,	4,3,1,0,	455990 −
627	6,2,	4,3,1,	⊕ 457083 − +
628	6,2,0,	4,3,1,	458176 +
629	6,2,	4,3,0,	458177 −
630	6,2,	4,3,	⊕ 459270 − +
631	6,2,0,	4,3,	460363 +
632	6,2,1,	4,3,0,	460364 −
633	6,2,1,	4,3,	⊕ 461457 − +
634	6,2,1,0,	4,3,	462550 +
635	6,	4,2,1,0,	462551 −
636	6,	4,2,1,	⊕ 463644 − +
637	6,0,	4,2,1,	464737 +
638	6,	4,2,0,	464738 −
639	6,	4,2,	⊕ 465831 − +
640	6,0,	4,2,	466924 +
641	6,1,	4,2,0,	466925 −
642	6,1,	4,2,	⊕ 468018 − +
643	6,1,0,	4,2,	469111 +
644	6,	4,1,0,	469112 −
645	6,	4,1,	⊕ 470205 − +
646	6,0,	4,1,	471298 +
647	6,	4,0,	471299 −
648	6,	4,	⊕ 472392 − +
649	6,0,	4,	473485 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
650	6,1,	4,0,	473486 −
651	6,1,	4,	⊕ 474579 − +
652	6,1,0,	4,	475672 +
653	6,2,	4,1,0,	475673 −
654	6,2,	4,1,	⊕ 476766 − +
655	6,2,0,	4,1,	477859 +
656	6,2,	4,0,	477860 −
657	6,2,	4,	⊕ 478953 − +
658	6,2,0,	4,	480046 +
659	6,2,1,	4,0,	480047 −
660	6,2,1,	4,	⊕ 481140 − +
661	6,2,1,0,	4,	482233 +
662	6,3,	4,2,1,0,	482234 −
663	6,3,	4,2,1,	⊕ 483327 − +
664	6,3,0,	4,2,1,	484420 +
665	6,3,	4,2,0,	484421 −
666	6,3,	4,2,	⊕ 485514 − +
667	6,3,0,	4,2,	486607 +
668	6,3,1,	4,2,0,	486608 −
669	6,3,1,	4,2,	⊕ 487701 − +
670	6,3,1,0,	4,2,	488794 +
671	6,3,	4,1,0,	488795 −
672	6,3,	4,1,	⊕ 489888 − +
673	6,3,0,	4,1,	490981 +
674	6,3,	4,0,	490982 −
675	6,3,	4,	⊕ 492075 − +
676	6,3,0,	4,	493168 +
677	6,3,1,	4,0,	493169 −
678	6,3,1,	4,	⊕ 494262 − +
679	6,3,1,0,	4,	495355 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
680	6,3,2,	4,1,0,	495356 −
681	6,3,2,	4,1,	⊕ 496449 −
682	6,3,2,0,	4,1,	497542 +
683	6,3,2,	4,0,	497543 −
684	6,3,2,	4,	⊕ 498636 −
685	6,3,2,0,	4,	499729 +
686	6,3,2,1,	4,0,	499730 −
687	6,3,2,1,	4,	⊕ 500823 −
688	6,3,2,1,0,	4,	501916 +
689	6,	3,2,1,0,	501917 −
690	6,	3,2,1,	⊕ 503010 −
691	6,0,	3,2,1,	504103 +
692	6,	3,2,0,	504104 −
693	6,	3,2,	⊕ 505197 −
694	6,0,	3,2,	506290 +
695	6,1,	3,2,0,	506291 −
696	6,1,	3,2,	⊕ 507384 −
697	6,1,0,	3,2,	508477 +
698	6,	3,1,0,	508478 −
699	6,	3,1,	⊕ 509571 −
700	6,0,	3,1,	510664 +
701	6,	3,0,	510665 −
702	6,	3,	⊕ 511758 −
703	6,0,	3,	512851 +
704	6,1,	3,0,	512852 −
705	6,1,	3,	⊕ 513945 −
706	6,1,0,	3,	515038 +
707	6,2,	3,1,0,	515039 −
708	6,2,	3,1,	⊕ 516132 −
709	6,2,0,	3,1,	517225 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
710	6,2,	3,0,	517226 −
711	6,2,	3,	⊕ 518319 −
712	6,2,0,	3,	519412 +
713	6,2,1,	3,0,	519413 −
714	6,2,1,	3,	⊕ 520506 −
715	6,2,1,0,	3.	521599 +
716	6,	2,1,0,	521600 −
717	6,	2,1,	⊕ 522693 −
718	6,0,	2,1,	523786 +
719	6,	2,0,	523787 −
720	6,	2,	⊕ 524880 −
721	6,0,	2,	525973 +
722	6,1,	2,0,	525974 −
723	6,1,	2,	⊕ 527067 −
724	6,1,0,	2,	528160 +
725	6,	1,0,	528161 −
726	6,	1,	⊕ 529254 −
727	6,0,	1,	530347 +
728	6,	0,	530348 −
729	6,		⊕ 531441 − (12)
730	6,0,		532534 +
731	6,1,	0,	532535 −
732	6,1,		⊕ 533628 −
733	6,1,0,		534721 +
734	6,2,	1,0,	534722 −
735	6,2,	1,	⊕ 535815 −
736	6,2,0,	1,	536908 +
737	6,2,	0,	536909 −
738	6,2,		⊕ 538002 −
739	6,2,0,		539095 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
740	6,2,1,	0,	539096 −
741	6,2,1,		⊕ 540189 −
742	6,2,1,0,		541282 +
743	6,3,	2,1,0,	541283 −
744	6,3,	2,1,	⊕ 542376 −
745	6,3,0,	2,1,	543469 +
746	6,3,	2,0,	543470 −
747	6,3,	2,	⊕ 544563 −
748	6,3,0,	2,	545656 +
749	6,3,1,	2,0,	545657 −
750	6,3,1,	2,	⊕ 546750 −
751	6,3,1,0,	2,	547843 +
752	6,3,	1,0,	547844 −
753	6,3,	1,	⊕ 548937 −
754	6,3,0,	1,	550030 +
755	6,3,	0,	550031 −
756	6,3,		⊕ 551124 −
757	6,3,0,		552217 +
758	6,3,1,	0,	552218 −
759	6,3,1,		⊕ 553311 −
760	6,3,1,0,		554404 +
761	6,3,2,	1,0,	554405 −
762	6,3,2,	1,	⊕ 555498 −
763	6,3,2,0,	1,	556591 +
764	6,3,2,	0,	556592 −
765	6,3,2,		⊕ 557685 −
766	6,3,2,0,		558778 +
767	6,3,2,1,	0,	558779 −
768	6,3,2,1,		⊕ 559872 −
769	6,3,2,1,0,		560965 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
770	6,4,	3,2,1,0,	560966 −
771	6,4,	3,2,1,	⊕ 562059 −
772	6,4,0,	3,2,1,	563152 +
773	6,4,	3,2,0,	563153 −
774	6,4,	3,2,	⊕ 564246 −
775	6,4,0,	3,2,	565339 +
776	6,4,1,	3,2,0,	565340 −
777	6,4,1,	3,2,	⊕ 566433 −
778	6,4,1,0,	3,2,	567526 +
779	6,4,	3,1,0,	567527 −
780	6,4,	3,1,	⊕ 568620 −
781	6,4,0,	3,1,	569713 +
782	6,4,	3,0,	569714 −
783	6,4,	3,	⊕ 570807 −
784	6,4,0,	3,	571900 +
785	6,4,1,	3,0,	571901 −
786	6,4,1,	3,	⊕ 572994 −
787	6,4,1,0,	3,	574087 +
788	6,4,2,	3,1,0,	574088 −
789	6,4,2,	3,1,	⊕ 575181 −
790	6,4,2,0,	3,1,	576274 +
791	6,4,2,	3,0,	576275 −
792	6,4,2,	3,	⊕ 577368 −
793	6,4,2,0,	3,	578461 +
794	6,4,2,1,	3,0,	578462 −
795	6,4,2,1,	3,	⊕ 579555 −
796	6,4,2,1,0,	3,	580648 +
797	6,4,	2,1,0,	580649 −
798	6,4,	2,1,	⊕ 581742 −
799	6,4,0,	2,1,	582835 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
800 801 802	6,4, 6,4, 6,4,0,	2,0, 2, 2,	582836 − ⊕ 583929 − 585022 +
803 804 805	6,4,1, 6,4,1, 6,4,1,0,	2,0, 2, 2,	585023 − ⊕ 586116 − 587209 +
806 807 808	6,4, 6,4, 6,4,0,	1,0, 1, 1,	587210 − ⊕ 588303 − 589396 +
809 810 811	6,4, 6,4, 6,4,0,	0,	589397 − ⊕ 590490 − 591583 +
812 813 814	6,4,1, 6,4,1, 6,4,1,0,	0,	591584 − ⊕ 592677 − 593770 +
815 816 817	6,4,2, 6,4,2, 6,4,2,0,	1,0, 1, 1,	593771 − ⊕ 594864 − 595957 +
818 819 820	6,4,2, 6,4,2, 6,4,2,0,	0,	595958 − ⊕ 597051 − 598144 +
821 822 823	6,4,2,1, 6,4,2,1, 6,4,2,1,0,	0,	598145 − ⊕ 599238 − 600331 +
824 825 826	6,4,3, 6,4,3, 6,4,3,0,	2,1,0, 2,1, 2,1,	600332 − ⊕ 601425 − 602518 +
827 828 829	6,4,3, 6,4,3, 6,4,3,0,	2,0, 2, 2,	602519 − ⊕ 603612 − 604705 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
830	6,4,3,1,	2,0,	604706 −
831	6,4,3,1,	2,	⊕ 605799 −
832	6,4,3,1,0,	2,	606892 +
833	6,4,3,	1,0,	606893 −
834	6,4,3,	1,	⊕ 607986 −
835	6,4,3,0,	1,	609079 +
836	6,4,3,	0,	609080 −
837	6,4,3,		⊕ 610173 −
838	6,4,3,0,		611266 +
839	6,4,3,1,	0,	611267 −
840	6,4,3,1,		⊕ 612360 −
841	6,4,3,1,0,		613453 +
842	6,4,3,2,	1,0,	613454 −
843	6,4,3,2,	1,	⊕ 614547 −
844	6,4,3,2,0,	1,	615640 +
845	6,4,3,2,	0,	615641 −
846	6,4,3,2,		⊕ 616734 −
847	6,4,3,2,0,		617827 +
848	6,4,3,2,1,	0,	617828 −
849	6,4,3,2,1,		⊕ 618921 −
850	6,4,3,2,1,0,		620014 +
851	6,5,	4,3,2,1,0,	620015 −
852	6,5,	4,3,2,1,	⊕ 621108 −
853	6,5,0,	4,3,2,1,	622201 +
854	6,5,	4,3,2,0,	622202 −
855	6,5,	4,3,2,	⊕ 623295 −
856	6,5,0,	4,3,2,	624388 +
857	6,5,1,	4,3,2,0,	624389 −
858	6,5,1,	4,3,2,	⊕ 625482 −
859	6,5,1,0,	4,3,2,	626575 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
860	6,5,	4,3,1,0,	626576 −
861	6,5,	4,3,1,	⊕ 627669 − +
862	6,5,0,	4,3,1,	628762 +
863	6,5,	4,3,0,	628763 −
864	6,5,	4,3,	⊕ 629856 − +
865	6,5,0,	4,3,	630949 +
866	6,5,1,	4,3,0,	630950 −
867	6,5,1,	4,3,	⊕ 632043 − +
868	6,5,1,0,	4,3,	633136 +
869	6,5,2,	4,3,1,0,	633137 −
870	6,5,2,	4,3,1,	⊕ 634230 − +
871	6,5,2,0,	4,3,1,	635323 +
872	6,5,2,	4,3,0,	635324 −
873	6,5,2,	4,3,	⊕ 636417 − +
874	6,5,2,0,	4,3,	637510 +
875	6,5,2,1,	4,3,0,	637511 −
876	6,5,2,1,	4,3,	⊕ 638604 − +
877	6,5,2,1,0,	4,3,	639697 +
878	6,5,	4,2,1,0,	639698 −
879	6,5,	4,2,1,	⊕ 640791 − +
880	6,5,0,	4,2,1,	641884 +
881	6,5,	4,2,0,	641885 −
882	6,5,	4,2,	⊕ 642978 − +
883	6,5,0,	4,2,	644071 +
884	6,5,1,	4,2,0,	644072 −
885	6,5,1,	4,2,	⊕ 645165 − +
886	6,5,1,0,	4,2,	646258 +
887	6,5,	4,1,0,	646259 −
888	6,5,	4,1,	⊕ 647352 − +
889	6,5,0,	4,1,	648445 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
890	6,5,	4,0,	648446 −
891	6,5,	4,	⊕ 649539
892	6,5,0,	4,	650632 +
893	6,5,1,	4,0,	650633 −
894	6,5,1,	4,	⊕ 651726
895	6,5,1,0,	4,	652819 +
896	6,5,2,	4,1,0,	652820 −
897	6,5,2,	4,1,	⊕ 653913
898	6,5,2,0,	4,1,	655006 +
899	6,5,2,	4,0,	655007 −
900	6,5,2,	4,	⊕ 656100
901	6,5,2,0,	4,	657193 +
902	6,5,2,1,	4,0,	657194 −
903	6,5,2,1,	4,	⊕ 658287
904	6,5,2,1,0,	4,	659380 +
905	6,5,3,	4,2,1,0,	659381 −
906	6,5,3,	4,2,1,	⊕ 660474
907	6,5,3,0,	4,2,1,	661567 +
908	6,5,3,	4,2,0,	661568 −
909	6,5,3,	4,2,	⊕ 662661
910	6,5,3,0,	4,2,	663754 +
911	6,5,3,1,	4,2,0,	663755 −
912	6,5,3,1,	4,2,	⊕ 664848
913	6,5,3,1,0,	4,2,	665941 +
914	6,5,3,	4,1,0,	665942 −
915	6,5,3,	4,1,	⊕ 667035
916	6,5,3,0,	4,1,	668128 +
917	6,5,3,	4,0,	668129 −
918	6,5,3,	4,	⊕ 669222
919	6,5,3,0,	4,	670315 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
920	6,5,3,1,	4,0,	670316 −
921	6,5,3,1,	4,	⊕ 671409 −
922	6,5,3,1,0,	4,	672502 +
923	6,5,3,2,	4,1,0,	672503 −
924	6,5,3,2,	4,1,	⊕ 673596 −
925	6,5,3,2,0,	4,1,	674689 +
926	6,5,3,2,	4,0,	674690 −
927	6,5,3,2,	4,	⊕ 675783 −
928	6,5,3,2,0,	4,	676876 +
929	6,5,3,2,1,	4,0,	676877 −
930	6,5,3,2,1,	4,	⊕ 677970 −
931	6,5,3,2,1,0,	4,	679063 +
932	6,5,	3,2,1,0,	679064 −
933	6,5,	3,2,1,	⊕ 680157 −
934	6,5,0,	3,2,1,	681250 +
935	6,5,	3,2,0,	681251 −
936	6,5,	3,2,	⊕ 682344 −
937	6,5,0,	3,2,	683437 +
938	6,5,1,	3,2,0,	683438 −
939	6,5,1,	3,2,	⊕ 684531 −
940	6,5,1,0,	3,2,	685624 +
941	6,5,	3,1,0,	685625 −
942	6,5,	3,1,	⊕ 686718 −
943	6,5,0,	3,1,	687811 +
944	6,5,	3,0,	687812 −
945	6,5,	3,	⊕ 688905 −
946	6,5,0,	3,	689998 +
947	6,5,1,	3,0,	689999 −
948	6,5,1,	3,	⊕ 691092 −
949	6,5,1,0,	3,	692185 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
950	6,5,2,	3,1,0,	692186 −
951	6,5,2,	3,1,	⊕ 693279 +
952	6,5,2,0,	3,1,	694372
953	6,5,2,	3,0,	694373 −
954	6,5,2,	3,	⊕ 695466 +
955	6,5,2,0,	3,	696559
956	6,5,2,1,	3,0,	696560 −
957	6,5,2,1,	3,	⊕ 697653 +
958	6,5,2,1,0,	3,	698746
959	6,5,	2,1,0,	698747 −
960	6,5,	2,1,	⊕ 699840 +
961	6,5,0,	2,1,	700933
962	6,5,	2,0,	700934 −
963	6,5,	2,	⊕ 702027 +
964	6,5,0,	2,	703120
965	6,5,1,	2,0,	703121 −
966	6,5,1,	2,	⊕ 704214 +
967	6,5,1,0,	2,	705307
968	6,5,	1,0,	705308 −
969	6,5,	1,	⊕ 706401 +
970	6,5,0,	1,	707494
971	6,5,	0,	707495 −
972	6,5,		⊕ 708588 +
973	6,5,0,		709681
974	6,5,1,	0,	709682 −
975	6,5,1,		⊕ 710775 +
976	6,5,1,0,		711868
977	6,5,2,	1,0,	711869 −
978	6,5,2,	1,	⊕ 712962 +
979	6,5,2,0,	1,	714055

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
980	6,5,2,	0,	714056 −
981	6,5,2,		⊕ 715149
982	6,5,2,0,		716242 +
983	6,5,2,1,	0,	716243 −
984	6,5,2,1,		⊕ 717336
985	6,5,2,1,0,		718429 +
986	6,5,3,	2,1,0,	718430 −
987	6,5,3,	2,1,	⊕ 719523
988	6,5,3,0,	2,1,	720616 +
989	6,5,3,	2,0,	720617 −
990	6,5,3,	2,	⊕ 721710
991	6,5,3,0,	2,	722803 +
992	6,5,3,1,	2,0,	722804 −
993	6,5,3,1,	2,	⊕ 723897
994	6,5,3,1,0,	2,	724990 +
995	6,5,3,	1,0,	724991 −
996	6,5,3,	1,	⊕ 726084
997	6,5,3,0,	1,	727177 +
998	6,5,3,	0,	727178 −
999	6,5,3,		⊕ 728271
1000	6,5,3,0,		729364 +
1001	6,5,3,1,	0,	729365 −
1002	6,5,3,1,		⊕ 730458
1003	6,5,3,1,0,		731551 +
1004	6,5,3,2,	1,0,	731552 −
1005	6,5,3,2,	1,	⊕ 732645
1006	6,5,3,2,0,	1,	733738 +
1007	6,5,3,2,	0,	733739 −
1008	6,5,3,2,		⊕ 734832
1009	6,5,3,2,0,		735925 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
1010 1011 1012	6,5,3,2,1, 6,5,3,2,1, 6,5,3,2,1,0,	0,	735926 − ⊕ 737019 − 738112 +
1013 1014 1015	6,5,4, 6,5,4, 6,5,4,0,	3,2,1,0, 3,2,1, 3,2,1,	738113 − ⊕ 739206 − 740299 +
1016 1017 1018	6,5,4, 6,5,4, 6,5,4,0,	3,2,0, 3,2, 3,2,	740300 − ⊕ 741393 − 742486 +
1019 1020 1021	6,5,4,1, 6,5,4,1, 6,5,4,1,0,	3,2,0, 3,2, 3,2,	742487 − ⊕ 743580 − 744673 +
1022 1023 1024	6,5,4, 6,5,4, 6,5,4,0,	3,1,0, 3,1, 3,1,	744674 − ⊕ 745767 − 746860 +
1025 1026 1027	6,5,4, 6,5,4, 6,5,4,0,	3,0, 3, 3,	746861 − ⊕ 747954 − 749047 +
1028 1029 1030	6,5,4,1, 6,5,4,1, 6,5,4,1,0,	3,0, 3, 3,	749048 − ⊕ 750141 − 751234 +
1031 1032 1033	6,5,4,2, 6,5,4,2, 6,5,4,2,0,	3,1,0, 3,1, 3,1,	751235 − ⊕ 752328 − 753421 +
1034 1035 1036	6,5,4,2, 6,5,4,2, 6,5,4,2,0,	3,0, 3, 3,	753422 − ⊕ 754515 − 755608 +
1037 1038 1039	6,5,4,2,1, 6,5,4,2,1, 6,5,4,2,1,0,	3,0, 3, 3,	755609 − ⊕ 756702 − 757795 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
1040	6,5,4,	2,1,0,	757796 −
1041	6,5,4,	2,1,	⊕ 758889 − +
1042	6,5,4,0,	2,1,	759982 +
1043	6,5,4,	2,0,	759983 −
1044	6,5,4,	2,	⊕ 761076 − +
1045	6,5,4,0,	2,	762169 +
1046	6,5,4,1,	2,0,	762170 −
1047	6,5,4,1,	2,	⊕ 763263 − +
1048	6,5,4,1,0,	2,	764356 +
1049	6,5,4,	1,0,	764357 −
1050	6,5,4,	1,	⊕ 765450 − +
1051	6,5,4,0,	1,	766543 +
1052	6,5,4,	0,	766544 −
1053	6,5,4,		⊕ 767637 − +
1054	6,5,4,0,		768730 +
1055	6,5,4,1,	0,	768731 −
1056	6,5,4,1,		⊕ 769824 − +
1057	6,5,4,1,0,		770917 +
1058	6,5,4,2,	1,0,	770918 −
1059	6,5,4,2,	1,	⊕ 772011 − +
1060	6,5,4,2,0,	1,	773104 +
1061	6,5,4,2,	0,	773105 −
1062	6,5,4,2,		⊕ 774198 − +
1063	6,5,4,2,0,		775291 +
1064	6,5,4,2,1,	0,	775292 −
1065	6,5,4,2,1,		⊕ 776385 − +
1066	6,5,4,2,1,0,		777478 +
1067	6,5,4,3,	2,1,0,	777479 −
1068	6,5,4,3,	2,1,	⊕ 778572 − +
1069	6,5,4,3,0,	2,1,	779665 +

No.	Indices of the Powers of 3.		Leading Numbers and their Limits.
	+	−	
1070 1071 1072	6,5,4,3, 6,5,4,3, 6,5,4,3,0,	2,0, 2, 2,	779666 − ⊕ 780759 + 781852
1073 1074 1075	6,5,4,3,1, 6,5,4,3,1, 6,5,4,3,1,0,	2,0, 2, 2,	781853 − ⊕ 782946 + 784039
1076 1077 1078	6,5,4,3, 6,5,4,3, 6,5,4,3,0,	1,0, 1, 1,	784040 − ⊕ 785133 + 786226
1079 1080 1081	6,5,4,3, 6,5,4,3, 6,5,4,3,0,	0,	786227 − ⊕ 787320 + 788413
1082 1083 1084	6,5,4,3,1, 6,5,4,3,1, 6,5,4,3,1,0,	0,	788414 − ⊕ 789507 + 790600
1085 1086 1087	6,5,4,3,2, 6,5,4,3,2, 6,5,4,3,2,0,	1,0, 1, 1,	790601 − ⊕ 791694 + 792787
1088 1089 1090	6,5,4,3,2, 6,5,4,3,2, 6,5,4,3,2,0,	0,	792788 − ⊕ 793881 + 794974
1091 1092 1093	6,5,4,3,2,1, 6,5,4,3,2,1, 6,5,4,3,2,1,0,	0,	794975 − ⊕ 796068 + 797161
1094 2187 3280	(7 + 6) = 13,		797162 − ⊕ 1594323 + (13) 2391484
3281 4374 5467	(8 + 6) = 14,	(7 + 6) = 13,	2391485 − ⊕ 3188646 + 3985807

END OF THE TABLE FROM THE TERNARY SCALE.

BINARY SCALE,

Or, Powers of 2, with their Indices, and a corresponding Interest Table for the Products of Days and Pounds, at the Rate of £5 per *Cent.* per *Annum.*

Powers.	Ind.	£.	s.	d. qrs.
1 =	0 = 0	0	0	0 ,13
2 =	1 = 0	0	0	0 ,26
4 =	2 = 0	0	0	0 ,53
8 =	3 = 0	0	0	0¼,05
16 =	4 = 0	0	0	0½,10
32 =	5 = 0	0	1	,21
64 =	6 = 0	0	2	,42
128 =	7 = 0	0	4	,83
256 =	8 = 0	0	8	¼,66
512 =	9 = 0	1	4	¾,33
1024 =	10 = 0	2	9	½,66
2048 =	11 = 0	5	7	¼,33
4096 =	12 = 0	11	2	½,65
8192 =	13 = 1	2	5	¼,30
16384 =	14 = 2	4	10	½,61
32768 =	15 = 4	9	9	¼,22
65536 =	16 = 8	19	6	½,43
&c.	&c.		&c.	

What is the Interest on One Pound for 365 Days, by the Binary Table?

365 × 1 = 365, the Product

In Page 6, the Indices for 365 are 8,6,5,3,2,0.

Then by above Table,

Index,	8 = 0	0	8	¼,66
	6 = 0	0	2	,42
	5 = 0	0	1	,21
	3 = 0	0	0	¼,05
	2 = 0	0	0	,53
	0 = 0	0	0	,13
	£0	1	0	,00

Answer, One Shilling.

TERNARY SCALE,

Or, Powers of 3, with their Indices, and Interest Table at the Rate of £5 per *Cent.* per *Annum.*

Powers.	Ind.	£.	s.	d. qrs.
1 =	0 =	0	0	0 ,13
3 =	1 =	0	0	0 ,39
9 =	2 =	0	0	0¼,18
27 =	3 =	0	0	0¾,55
81 =	4 =	0	0	2½,65
243 =	5 =	0	0	7¾,96
729 =	6 =	0	1	11¾,87
2187 =	7 =	0	5	11¾,61
6561 =	8 =	0	17	11½,82
19683 =	9 =	2	13	11 ,45
59049 =	10 =	8	1	9¼,35
177147 =	11 =	24	5	4 ,04
531441 =	12 =	72	16	0 ,13
1594323 =	13 =	218	8	0 ,40
4782969 =	14 =	655	4	0¼,19
&c.	&c.		&c.	

What is the Interest for 432 Days on £1047 by the Ternary Table?

452304 = 432 × 1047,

452709, l.n. ind.(12) − (10,9,)

d − 405, ind. are (5,4,) − (6) p. 32

consequently the Indices for 452304 are (12,5,4,) − (10,9,6,)

Then by above Table,

Index,	− 10 = − 8	1	9	¼,35
	− 9 = − 2	13	11	,45
	− 6 = − 0	1	11	¾,87
Total,	− 10	17	8	¼,67
Index,	12 = 72	16	0	,13
	5 = 0	0	7	¾,96
	4 = 0	0	2	½,65
Total,	+ 72	16	10	½,74
Brought down	− 10	17	8	¼,67
Answer,	£61	19	2	¼,07

FINIS.

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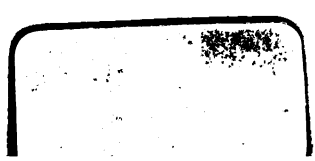
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